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Five bureaucratic characteristics of organizations determined by the perceptions of staff members in 45 Cooperative Extension Service organizations and obtained through a mailed questionnaire, were compared with organizational innovativeness in program development as demonstrated over the past five years and reported by 53 raters composed of extension administrators responsible for programs on a state and national basis. When tested individually, the dimensional bureaucratic administrative characteristics -- "hierarchy of authority", "rules and procedures" and "interpersonal relations" were not significantly related to innovation. Forty-nine percent of the variation in innovation was found to be attributable to four variables which were grouped in pairs -- "rules - rewards" and "personnel - budget" or "resources." "Rewards of Office" and "rules and procudures" when tested as grouped or combined variables in regression analysis, proved to be significantly related to innovation. The human and material resources possessed by an organization were significant predictors of innovation. [Letters and questionnaires used in the study and a bibliography are included in the appendix]. (author/nl)

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June 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ADULT EDUCATION ORGANIZATIONS RELATIVE TO PROGRAM DEVELOPMENT AFFECTING INNOVATIVE PROCEDURES AND FLEXIBILITY TO CHANGE

WAYNE B. RINGER

THE UNIVERSITY OF CHICAGO
CHICAGO, ILLINOIS

1968

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HEALTH, EDUCATION, AND WELFARE

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PREFACE

I have observed that in the relatively short period of ten years the goals or objectives as set by my employing organization, Utah State University Extension Services, and similar organizations have required extensive revisions while staff members were attempting to satisfy the presumed expectations and apparent needs of people in a rapidly changing world. The changes in purpose which have been accomplished by the organizations have not been nearly so numerous as the proposals for change and need for change as expressed by interested people both within and outside of the organizations. While I recognize that change for the sake of change has questionable value, change for the purpose of meeting present and future challenges is imperative in adult education organizations which are expected to provide leadership for cultural evolvement.

Anticipating and confronting environmental trends requires creative abilities in individuals and innovative capacities in organizations. Some extension service organizations seem to have been endowed with the necessary innovative capacities while others are bound by traditional patterns of operation and are hampered in their attempts at developing programs which are contemporary with current technical and sociological trends. There are probably numerous factors which relate to the innovative capacities of these organizations, but the factors which are of most interest to me are the type of administrative characteristics in an adult education organization which may be associated with a capacity to innovate in the development of programs.

I am indebted to a number of people and organizations for their cooperation and assistance while working in the graduate program and conducting this research. My thanks and appreciation are expressed to the following organizations and people:

The Utah State University Board of Trustees granted a one year sabbatical leave, and a leave of absence was subsequently extended for an additional one and one-half years.

The Kellogg Foundation granted a Fellowship - Internship to provide support during my first year of graduate study which was devoted primarily to course work and a six month internship in The University of Chicago Center for Continuing Education.

The Farm Foundation provided a Fellowship for the following nine months of the graduate program as the emphasis in my study shifted from coursework to research.

The U.S. Office of Education accepted my grant proposal for dissertation research and provided financial aid to cover research expenses near the end of the second year of study.

Nearly all of the state extension service organizations participated in this study, and staff members generously gave their time, and information. A number of people on the administrative and specialist staff with the Federal Extension Service also made a contribution. Special appreciation is expressed to the three leaders in extension administration who served as a panel of judges. The staff members of the ten organizations, which participated in the pilot study and which will not be identified, were very cooperative and helpful. Dan Pfannstiel and the staff of the National Agricultural Center at the University of Wisconsin generously contributed time and support in furthering this research.

To the staff members at The University of Chicago and fellow students who spent time in assisting with the research design and procedures, shared ideas, offered constructive criticism and gave needed encouragement, I express my sincere appreciation. Special recognition is extended to:

Dr. Francis S. Chase, Dr. LuVern L. Cunningham and Dr. David E. Wiley, dissertation committee members; Dr. Ann Litchfield, coursework and internship advisor; and Dr. Cyril O. Houle, an exemplary teacher;

Dr. William S. Griffith, research advisor and chairman of my dissertation committee, for commendable teaching, challenging example and proficient direction during the entire graduate program;

My wife, Joyce, for timely encouragement, willing sacrifices and many hours of work in support of our goal; and my children Alan, Mont, Sherry and Shauna for their understanding and willingness to temporarily defer personal interests and desires so that this undertaking might be successfully completed.

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CHAPTER I

INTRODUCTION

Scientific and technological developments are important factors in the formation of a contemporary society distinguished by continuing change, a society unlike the one originally transmitted to the present generation of mature adults; and as the cultural patterns persist in change, the educational organizations serving the adult population must be ready to meet new challenges or face the threat of obsolescence or dissolution; innovativeness in the development of educational programs may be the means of avoiding the latter alternatives.

The belief that the formal learning role and the producing role should occupy separate periods in the life span of an individual appears not to be compatible with the challenges presented by today's rapidly changing social system. It has been observed that educational institutions, graduates and programs can all become inadequate in meeting contemporary needs and such development may be comparable to the gradual obsolescence of industrial facilities, production methods, machinery, and production workers. An industrial concern must adjust to changing conditions or it will decline in value and cease to function as an organization; leaders of educational institutions must also recognize that the value of their organizational output is measured by how well an individual's educational needs are not only met initially but maintained throughout life. It seems that the concept of continuing one's education throughout life must be widely accepted and supported if we are to overcome the problem of human obsolescence. Changes in concepts concerning continuing education, not only in the thinking and administrative policies of some educational leaders but also in the attitude of the general public, are necessary if current educational problems of our dynamic social system are to be resolved. In his education message to the Congress in 1965 the President of the United States stressed the need for drawing upon the unique resources of "our great universities" in an attempt to solve urgent and pressing problems of modern society, but he also observed that many of these universities are not now ready for the demanding assignment which he proposed.

Griffith[1] in his study of adult education institutions recognized problems associated with the acceptance of change by the membership of an organization and presented some conclusions based upon the literature on organizational growth and development. He observes that as time passes the rate of growth in an organization decelerates until a point of stability is reached and organizational leaders lose their willingness to adjust to change.

> With the routine practice of their functions the personnel in each segment of the institution became habituated to one manner of working, lost their vision and spontaneity, increased their efficiency and specialization, and became less capable of coping with unanticipated environmental changes.[2]

The lag of educational institutions in adjusting to contemporary needs has been noted by many educational leaders, and theories have been posited, but the problem persists with little progress being made toward a solution. The demands placed upon adult education organizations today for providing leadership in the solution of urgent social issues seem to the writer to be adequate justification for intensive study on the problem of organizational adaptation and change.

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[1] William S. Griffith, "A Growth Model of Institutions of Adult Education" (unpublished Ph.D. dissertation, Department of Education, University of Chicago, 1963), p. 301.

[2] *Ibid.*

The ability of adult education institutions to anticipate the needed educational programs as interpreted from the situation in the local, state and national community appears to vary widely. There are probably many factors which impede or facilitate the development of programs, but it seems to the writer that the organizational administrative climate would have important relationships to the program output. One might be asked the question as to whether the members of an adult education organization are inadvertently or intentionally encouraged to adhere to a prescribed pattern of action or whether they are encouraged to be innovative and to feel free to explore and test new approaches to problems while recognizing the increased probabilities of errors inherent in their activities. The writer feels that the administrative climate of organizations as perceived by organizational membership varies between two extremes and that the variation can be described through the use of a theory of organization called "bureaucracy."

Definition of Variables and the Problem to be Studied

Brief definitions of bureaucracy, bureaucratic character and innovativeness in program development are essential if one is to understand the hypothesized relationship between these variables. In defining bureaucracy, Etzioni uses the term synonymously with organization suggesting his belief that some form of bureaucracy pervades organizations in general.[1] Max Weber, the German sociologist who first introduced the concept, defines bureaucratic administration as "fundamentally the exercise of control on the basis of knowledge."[2] Bureaucracy, in essence and for the purposes of this discussion, is defined as a pattern of organizational structure designed for handling complex administrative tasks and through which numerous functions are rationally controlled.

The concept of bureaucracy was introduced by Max Weber as an ideal type of organizational administration or government, and later writers have enlarged upon the concept and have proposed a model of bureaucratic administration which may be associated in a functional way with the innovativeness of an organization. This concept provides for a type of administration which is characterized by efficiency in output, reliability, repetitiveness, and equality in interpersonal relations, which, when rigorously interpreted and applied, may act as a deterrent to innovation. The characteristics of the bureaucratic model are thought to vary in the way they are applied by organizational leaders between the extremes of rigidity and flexibility. The theoretical framework for the study is based upon the bureaucratic model for organizational administration.

The characteristics of bureaucracy which are conceived as differing in the way in which they are administered and which are felt to be related to innovativeness in program development are *the hierarchy of authority*, which may vary in relation to organizational structure and function; *the*

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[1] Amitai Etzioni, *Modern Organizations* (Englewood Cliffs, New Jersey: Prentice Hall Inc., 1964), p. 3.

[2] Max Weber, *The Theory of Social and Economic Organization*, trans. A. M. Henderson and Talcott Parsons (New York: Oxford University Press, 1947), p. 339.

division of labor, which may also vary in structure and function; *the rules and procedures,* which govern the activities of organizational members and which may differ in the way they are established, interpreted and practiced; *differential rewards of office,* which may be administered and interpreted quite differently from one organization to another; and *impersonality in inter-personal relations,* which may vary in formal and informal interpretation among staff members and between staff and clientele. The definitions of each of these characteristics are amplified in Chapter II according to the theories of writers on bureaucracy, and literature on organization is cited in support of the widespread belief that bureaucratic administration when strictly applied does suppress innovation in organizations.

Even though an organization may be termed as "bureaucratic," it need not be administered in the same way as another bureaucratic organization. Rather, bureaucratic organizations are thought to vary widely in the characteristics of their administration, and it is this difference in administering organizations which establishes in part the working climate of organizational members. The writer would like to determine how these differences in the bureaucratic characteristics of adult education organizations influence the memberships' ability to produce innovative program offerings.

Operational definitions of bureaucratic character and innovativeness in program development will be presented in this chapter to clarify the problem being studied, and further elaboration on the definitions will be given in subsequent chapters as the need arises.

Bureaucratic character encompasses both organizational form and management procedures and varies in application between the extremes of rigidity and flexibility. Rigidity is the strict interpretation of bureaucratic characteristics and flexibility is the loose interpretation. Since organizational members do not always agree in their observations and assumptions on the degree of permissiveness or the bureaucratic character of their organization and since an individual's rational behavior is thought to be based upon his understanding of a situation, whether or not his understanding is correct, the investigator believes that the administrative climate as perceived by the organizational member is a better determiner of his behavior than is the information which can be obtained from policy handbooks and rules and procedures manuals. The bureaucratic character of an organization can be influenced by any person holding a position in the administrative or supervisory hierarchy; it is more than the idiosyncratic expression of one man's personality.

Innovativeness in program development is not interpreted as a universal good; however, a limited amount of innovation is needed to develop programs in a stable environment, and when the situation is changing rapidly, innovation may be a necessity for organizational survival. For the purposes of this study the interpretation of the term "innovation" is not to be restricted to the first known application of an idea or practice but rather is to be interpreted in terms of the reference groups of the organizational innovators which are to include all sister organizations performing similar functions. After thorough consideration of the possible alternatives, an individual may produce an innovation in program development by implementing a new idea or practice which either had its origin in the mind of the innovator or in a situation other than that of the circumstances to which it is to be applied.

The problem to be studied is the relationships which may exist between the bureaucratic character of the administration as perceived by the organizational members and the demonstrated innovativeness of an organization in program development.

Basic Assumptions Relative to the Study

Certain assumptions have been necessary in order to proceed with the study. First, it was assumed that the rate and frequency of technological and social changes in the nation today has brought about new challenges for adult education organizations in terms of their program offerings and has presented problems which can not be solved solely by relying on traditional methods of operation. A significant change in the environment of organizational membership is assumed to require some adaptation, adjustment or change within the organization, and if the organizational members are to provide leadership for change, they must be able to invent or innovate.

Second, it is assumed that all normal people have the capacity to innovate in varying degrees and that this capacity is utilized under different or varied circumstances by each individual. When one has the desire to be innovative, it may be achieved in a single phase of a person's total activity, or it may be manifest in a variety of situations.

Third, it is assumed that the stability of the variables being studied will be such that reliable measures may be taken, and that relationships between the variables will remain relatively constant over the period designated for the study. Since leadership is a factor influencing the degree of bureaucratization, changes in leadership may relate to the way personnel perceive the administrative characteristics of an organization and may also bring about change in the level or amount of innovativeness in an organization, particularly if the changes involve the appointment of administrators from sources outside of the organization.

Background of the Problem

The renewal of organizational goals, the organizational process of adapting to changing environmental conditions, and the anticipation of environmental conditions requiring innovation and adjustment are problems which have not been well explored in the development and testing of organizational theory. Educational institutions are known to lag behind the mainstream of the social system in recognizing and adjusting to changing conditions. The potential contribution which could be made by institutions of adult education in preventing educational obsolescence in the people they claim to serve is far greater than that which is currently observed. One might ask why educational organizations tend to resist change, and one conclusion might be reached that educational organizations, as with many other types of organizations, have built-in factors in their structure and functions which serve as natural deterrents to change.

Innovation in educational programs requires that the leaders be willing and able to explore new areas, be ready to assume the risk of erring in their judgment, and be free to make decisions in situations where the probability of failure is relatively high. Innovations are therefore not always beneficial or supportive in relation to the goals of an organization. There are many theories on how innovation develops and is nurtured in organizations, but most of them remain untested empirically.

Some theories on innovation, as presented in Chapter II, are based upon the assumption that innovation requires the proper climatic or environmental conditions just as does the propagation of living things. In the context of organization the internal climatic conditions involve the structure and functions of the whole as set by the administration or management. Thus various patterns or styles of administration are thought to be associated with the presence or absence of innovation in organizations.

General Hypothesis

A general hypothesis is that in the adult education organizations identified as possessing a relatively high degree of innovativeness in their program development, staff members will perceive the bureaucratic characteristics as tending to be pliable or ductile in application; and conversely, in the organizations identified as being low on innovativeness in program, staff members will perceive the bureaucratic characteristics as tending to be precise or exacting. Five specific hypotheses, which are derived from the preceding general hypothesis, are presented in Chapter II following a review of the literature and an analysis of the theory relevant to the problem being studied.

Population and Sample

It was necessary to decide between a population representing a variety of adult education organizations which would have permitted broader generalizations and a population which allowed for better control of certain variables both internal to and external to the organizations being studied. Organizations were needed which have a relatively large number of full time staff members whose work tasks have some similarities. The proportion of professional staff members in each organization was felt to be a variable which should be controlled if possible. Organizations are thought to go through an early stage of growth and development characterized by search and experimentation, while organizations in the later, mature stage of development tend to support a static structure, and functions of staff members are performed routinely.[1] Confounding variables may have been introduced if all of the organizations to be studied had *not* progressed to the mature stage of development.

Since data on administrative characteristics are in part dependent upon the perceptions of organizational participants and their perceptions will be based upon experiences in their own organizations and observations of the form and functions of other organizations, the investigator felt that more informative data could be obtained from individuals who have an opportunity to observe a variety of bureaucratic administrative patterns. For the above reasons the Cooperative Extension Service organizations were selected as the population for this study.

The Smith-Lever Act of 1914 provided for the establishment of the Cooperative Extension Service in Land Grant Universities for the purpose of providing informal, practical education to farm families in agriculture and home economics. The Cooperative Extension Service in each state is part of a larger system which places some unique and conflicting role expectations upon its administrators. It has a memorandum of agreement with the Federal Extension Service, a bureau of the United States Department of Agriculture, in which certain specifications are made for program development. It is also under the direction of the president of the state Land Grant University of which it is a part. Financial support for Cooperative Extension Service is generally derived from three sources, federal, state and county governments. The extension organization is accountable in part to those who provide financial support, and the expectations for program objectives at these various levels of government are not always compatible; thus, extension administrators may find it necessary to serve in a mediating role.

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[1] Griffith, *op. cit.*

The extension organizations in each state are composed of a state staff which is usually located on the university campus and an area or county staff which has offices in various locations throughout the state. The state staff is made up of administrators, supervisors, subject matter specialists and auxiliary personnel assigned in supporting roles such as editors, newswriter, television directors, and accountants. The subject matter specialists and supervisors serving in the state staff organizations were selected to provide the data needed for this study. The auxiliary personnel were combined in the sample with the subject matter specialists because their assignments and roles are similar in nature and because it was not always possible to distinguish between the two. County personnel were *not* included in the sample because of the geographic dispersion of county offices and the limited opportunities provided for interaction with the state staff as a group.

Organization of the Remaining Text

The balance of this report is organized in about the same way that the various phases of the study were initiated. The process of developing an instrument which could be used to measure the perceptions of staff members in adult education organizations relative to the application of bureaucratic characteristics is presented in Chapter III.

The next phase of the study which is presented in Chapter IV involved the problem of establishing a rank order of the states on the basis of their innovativeness in program development, the dependent variable. The procedures used in collecting data on the bureaucratic profile of the organizations, the independent variables, are also reported in Chapter IV.

The data were analyzed by utilizing a simple correlation matrix to determine possible relationships and the polarity of these relationships. The strength of the independent variables as predictors of innovation was tested by multiple regression analysis and the significance of the relationships between each independent variable or covariate and the dependent variable was tested by using chi-square. These analyses are presented in Chapter V.

The investigator's interpretation of the results of the analyses, the conclusions, generalizations and observations on the limitations of the study along with suggestions for further research are presented in Chapter VI.

CHAPTER II

BACKGROUND OF THE PROBLEM BEING INVESTIGATED

The personnel in many adult education organizations appear to become accustomed to set patterns of action in performing their assigned roles, and these patterns remain relatively unchanged over extended periods of time. If the organizational objectives embrace predictability and performance efficiency, then the formation of non-changing habitual patterns of action is recognized as a desirable trait, but if there is a need for the membership of such an organization to synchronize their functions with a rapidly changing external environment and even anticipate necessary adjustments, these habit patterns or the possible accompanying resistance to change may be detrimental.

Synchronizing the functions of an adult education organization with its external environment requires among other things an ability to innovate. There are several possible theories to explain the presence or absence in an organization of the capacity to innovate. One theory which will be considered in this chapter and which appears to be relevant to the problem is developed around the idea that a highly bureaucratized organization provides a poor working climate for the innovator. An attempt will be made to present the bureaucratic theory along with other pertinent research and concepts which relate to the innovative organization.

Organizational Resistance to Change

The process by which organizations adapt to a changing environment is probably one of the least developed concepts of organizational theory.[1]

Organization is defined as an order of social relationships among people arranged for the purposes of achieving some specified or assumed goal. Historical and case study evidence indicates that the leaders of some organizations have been able to adapt the organizational goals to the demands of a changing environment and others have not.[2] Sills cites a number of examples of organizations which have made extensive adjustments in their goals to meet changing conditions in the social system and also identifies other organizations which have persistently adhered to founding principles that no longer served a useful and necessary purpose for the majority of participants, thus resulting in eventual dissolution.[3] Tead argues that "practically, all programs get crystallized and rigid, and the need for re-evaluation is perennial."[4]

Gardner states that there is a challenge in organizing for renewal of goals that has not been adequately considered in the literature on management even though well informed administrators are aware of it. He sees the challenge as one of determining "how to combat the almost inevitable movement of an organization toward elaborate rigidity and massiveness and away from simplicity, flexibility and manageable size."[1] Tyler feels that members of organizations tend to devote too much energy to the problem of surmounting obstacles and making adjustments within the organizational structure and consequently, have less energy to expend on the formulation and achievement of purported goals.[2] Empirical data are needed to explain why some organizations remain highly adaptable to change while others become rigid, inflexible, and fall short of maintaining optimum output in relation to the intended clientele.

---

[1] James Q. Wilson, "Innovation in Organization; Notes Toward a Theory," *Approaches to Organizational Design*, ed. James D. Thompson (Pittsburg: University of Pittsburg Press, 1966), p. 195.

[2] Howard M. Vollmer, "Member Commitment and Organizational Competence in Religious Orders," *Berkeley Journal of Sociology*, III (Spring, 1957), 21.

[3] David L. Sills, *The Volunteers* (Glencoe, Illinois: Free Press, 1957), pp. 256-264.

[4] Ordway Tead, *Creative Management, the Relation of Aims to Administration* (New York: Association Press, 1935), p. 39.

Social scientists have argued that educational organizations have a tendency to lag behind other segments of the culture in making use of new knowledge for the improvement of programs,[3] and adult education organizations are definitely included in this observation. In an evaluation of the Ohio State University Cooperative Extension Service, an adult education organization, researchers reported that "there is a tendency for long established activities to be continued beyond the point where they are really needed" and went on to say that the organization had failed to recognize new areas to which activities might be more profitably directed.[4] In his study of liberal arts colleges, Davis cited three attributes which could be characteristic of loose bureaucratic administration in an adult education organization and reported that they were positively correlated with the ability of an institution to initiate change. Davis indicated that the top administration resisted the establishment of normative expectations, kept channels of communication open, and delegated decision-making authority throughout the staff.[1] This administrative climate appeared to facilitate and nurture innovative activity.

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[1] John W. Gardner, *Self-Renewal: The Individual and the Innovative Society* (New York: Harper & Row, 1961), p. 80.

[2] Ralph W. Tyler, "The Center for Advanced Study in the Behavioral Sciences: An Experiment," *The Creative Organization*, ed. Gary A. Steiner (Chicago: University of Chicago Press, 1965), p. 154.

[3] Paul R. Mort, "Studies in Educational Innovation from the Institute of Administrative Research: An Overview," *Innovation in Education*, ed. Matthew B. Miles (New York: Teachers College, Columbia University, 1964), p. 325.

[4] W. L. Fishel, G. W. Collings, and O. Wilhelmy, Jr., *An Objective Evaluation of the Present and Potential Structure and Functions of the Ohio Cooperative Extension Service* (Columbus, Ohio: Battele Memorial Institute, 1964), p. 1.

Innovation in Organization

The term "innovative organization" has been used by some theorists to designate an organization which demonstrates capabilities of adapting to the present and anticipated requirements of the social system of which it is a part. Such an organization may be adaptive without being very innovative. An innovative organization is adaptive when it puts new ideas to useful purposes, but an adaptive organization may not be innovative because it does not conceive of many new ideas. The argument might be posited that it requires a certain amount of innovativeness for an organization to be adaptive, but it should also be recognized that the source of innovative ideas or practices need not be from within the adaptive organization.

Innovation in an organization is thought to occur in three stages: the conception of a new idea, the communication of the new idea, and the acceptance or implementation of the new idea.[2] "New idea" is meant to include novel combinations of the elements in previously applied ideas or practices as well as ideas not previously put to use by a class of organizations which belong to a particular reference group. Not all new ideas are perceived or proven to be workable or acceptable by the participants or supporters of an organization; therefore, some innovations are nonadaptive and if adhibited may contravene the purposes of the organization. Hence, innovation may be either supportive of or detrimental to the objectives of an organization.

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[1] Richard H. Davis, "Personal and Organizational Variables Related to the Adoption of Educational Innovations in a Liberal Arts College" (unpublished Ph.D. dissertation, Department of Education, University of Chicago, 1965), p. 120.

[2] Wilson, *op. cit.*, p. 198.

Theorists have attempted to explain why some organizations are innovative and others are not, but little has been done empirically to test the theories. Guetzkow cites three factors in organizational functioning which he believes to be important in determining whether or not the internal environment of an organization is conducive to innovation:

(1) The way the organization handles its distribution of authority.

(2) How the organization's slack is used for error absorption.

(3) The manner in which the organization's communication facilities serve the diffusion of innovative ideas.[1]

He believes that centralization of authority allows very little latitude for making decisions in subordinate positions and restricts the opportunities for the non-conforming innovative act.

Three elements are reported to be related to the rate of program change in a study of sixteen organizations covering a period of five years.

> Specifically, a high degree of participation in agency-wide decisions, a low degree of job codification, and a high degree

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[1] Harold Guetzkow, "The Creative Person in Organization," in *The Creative Organization*, p. 37.

> of job satisfaction are found to be most highly associated with a high rate of program change. Measures of staff attitude toward change are found to be only weakly and inversely related to the rate of innovation of new programs and techniques.[1]

Ross considers satisfactory working conditions to be a factor influencing inventiveness and adaptability in organizations.

> Many factors determine whether working conditions are satisfactory and conducive to inventions. Encouragement and support from the school administration are extremely important. Inventors need a feeling of security and a feeling of belonging to a happy and harmonious group. A democratic atmosphere which provides dynamic leadership, good human relations, and freedom for initiative to flourish is the most important determinant of satisfactory working conditions for potential inventors.[2]

In a study of innovations in the public schools, Brickell reports that the administration is the key to innovation in the school. The administrator is powerful because he commands the authority in the organizational hierarchy; he provides the leadership and can precipitate a decision, but he is frequently not the original source of interest in a proposed innovation. Unless the administrative characteristics are such that a proposal is given early attention and actively supported, "it will not come into being."[3]

It is possible that a pattern of administration which lies at some interval between the extremes of strict or rigid and loose or flexible control would provide the most favorable climate for innovation. The suggestion has been made that a completely free and flexible administrative structure may not provide the proper atmosphere for achieving acceptance and implementation of innovation in a complex organization.[1] It is also possible that innovation is more prevalent in an organization with administrative patterns which shift from rigidity to comparative flexibility as the needs of the situation require; these patterns are exemplified by some special military units and the differences in administration which exist between the training situation and combat. Innovation is not predictable and as a result is not amenable to external controls.

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[1] Jerald Hage and Michael Aiken, "Program Change and Organizational Properties: A Comparative Analysis," *American Journal of Sociology*, LXXII, No. 2 (March, 1967), 503.

[2] D. H. Ross, ed., *Administration for Adaptability*, II (New York Teachers College, Columbia University, 1951), 5.

[3] Henry M. Brickell, "The Dynamics of Educational Change," *Theory Into Practice*, I, No. 2 (April, 1962), 82.

Innovation involves risks both to the organization and to the individual because an innovator moves into unexplored areas where the probability of error increases. Peers and superiors may regard the innovator's proposals as impractical. The adoption of innovations has been found to be positively influenced by extensive collegial relationships among physicians. Adoption of innovation was enhanced when the norms of the group applying the innovation favored such action.[2] In times of mild stress when there is likely to be an increased need for the innovative contribution, organizational leaders are motivated to avoid risks and do so by placing restrictions on subordinates' alternatives.[3] A shift of the focus of administrative concern from the external situation (clientele) to the internal situation (matters of organizational structure and authority relationships) may be a sign of stress, if the reasons for the shift in emphasis are not related to the expansion of facilities or the addition and reassignment of personnel as would be expected in a rapidly growing organization. Under stress conditions channels of communication and staff time may be occupied with paper work, reports, memoranda and administrative trivia to the extent that little time is left for innovation; freedom of action is thus curtailed and tighter administrative controls based upon precedent tend to prevail.[1]

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[1] Jerald Hage, "An Axiomatic Theory of Organization," *Administrative Science Quarterly*, X (December, 1965), 289-320.

[2] Herbert Menzel, "Innovation, Integration, and Marginality, A Survey of Physicians," *American Sociological Review*, XXV (1960), 707-713.

[3] A crisis situation, however, may bring about many types of experimentation and innovation when the survival of an organization is threatened.

Bower suggests that new ideas are not put to use because of intertia in mentioning them, fear of criticism if they are made known, a feeling of doubt about an idea being accepted or implemented and failure to give the idea early attention.[2] Each one of Bower's reasons why new ideas are not used could be constraining factors resulting directly from a bureaucratic type of administration.

Innovation and Change in Organizations of Adult Education

Apel studied the problem of predicting adult educator's attitudes toward institutional change and found that the anticipated effects of organizational change on personal interests appeared to influence respondents' attitudes toward changes more than did logical relationships of these changes to organizational goals.[3]

> Large permanent staffs of specialists might tend to rigidify or fossilize an institution into continuing along program lines favored by specialists. Specialist orientation may

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[1] Victor A. Thompson, "Bureaucracy and Innovation," *Administrative Science Quarterly*, X (June, 1965), 8-9.

[2] Marvin Bower, "Nurturing Innovation in an Organization," in *The Creative Organization*, pp. 170-173.

[3] John Dale Apel, "Prediction of Adult Educators' Attitudes Toward Institutional Changes" (unpublished Ph.D. dissertation, Department of Education, University of Chicago, 1966), p. 130.

> explain why some university extension divisions tend to resist broadening subject matter offerings or changing audiences, even though specialists are reputed to be extremely innovative and flexible within their areas of specialization. Promoting specialists who do not become generalists to administrative positions may likewise tend to rigidify or fossilize adult education institutions and programs.
>
> If a broad based adult education institution is interested in maximum programming flexibility, then the organizational structure, it seems, would ideally be arranged to include a broadly oriented core staff with flexibility in specialist staffing to execute various programs.[1]

Apel appears to the writer to be advocating pliability in the division of labor and flexibility as a desirable quality in administrative leadership when there is a need within organizations to bring about changes in program. Program innovations require changes, but changes do not always depend upon innovation.

Trew used Merton's concept of cosmopolitanism in an attempt to find a predictor of the county agents' willingness to accept innovative activities in Cooperative Extension work.[2]

> Total cosmopolitanism score for neither agents nor leaders was significantly related to disposition toward change score at the .05 level of probability, as indicated by correlation coefficients.[3]

Trew did find that "sociability" or the "network of personal relations" was not correlated with the leader's disposition toward accepting technological innovations. He also found that the age of the agents and volunteer leaders was not related to their disposition toward change. His study agreed with other studies in finding that professional workers are more inclined to accept change than are non-professional workers.[1]

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[1] *Ibid.*, pp. 134-135.

[2] Ernest Marion Trew, Jr., "The Disposition Toward Change of County Extension Leaders" (unpublished Ph.D. dissertation. Department of Education, University of Chicago, 1965).

[3] *Ibid.*, p. 141.

Netherton investigated the relationship between educational participation and innovativeness of county extension agents and found that the most innovative agents were younger than the average and that there was, however, no relationship between tenure in extension work and innovativeness.[2] He rejected his principal hypothesis that there would be a positive and linear relationship between levels of educational participation and levels of innovation"[3] and went on to say that:

> The direct implications of the findings from this research point up the need to understand what factors or behavioral traits are most likely to contribute to the implementation of change and improvement for adult education programs.[4]

Averill investigated the relationship between participation of adults in educational activities and their receptivity to new ideas and practices. The central finding of his study was that the person who participates in a variety of forms of educational activities is the one who is also open to new ideas and practices. Averill questions the ability of Cooperative Extension Service staff and clientele to adapt to new approaches because of the "specialized narrowly technical nature of extension education."[5]

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[1] *Ibid.*, pp. 139, 156-157.

[2] James D. Netherton, "The Relationship Between Educational Participation and the Innovativeness of County Extension Agents" (unpublished Ph.D. dissertation, Department of Education, University of Chicago, 1967), p. 12.

[3] *Ibid.*, p. 80.

[4] *Ibid.*, p. 125.

[5] Thomas B. Averill, "Openness to New Ideas and Practices and Educational Participation" (unpublished Ph.D. dissertation abstract, Department of Education, University of Chicago, 1964), pp. 17-18.

Apel and Averill both indicated that specialization may have a detrimental influence on innovation in an extension organization. Trew found the level of sociability not to be related to a person's disposition toward accepting change, and Netherton felt that there was a need to understand the factors or behavioral traits which would be most likely to contribute to the implementation of change in organizations of adult education. It seems that these findings only partially explain the presence or absence of innovation in adult education organizations. It should also be recognized that the ability to adapt or change may not represent the same factors as the ability to innovate. Many of the inhibiters of innovation which have been noted appear to have something in common with the writers who argue for the concept that strict or precise bureaucratic type of administration suppresses the innovative tendencies of subordinate personnel in an organization. Theoretical relationships of bureaucracy to innovation will now be considered.

Bureaucracy and Innovation

Several writers have used or proposed the use of the characteristics of a bureaucratic model as a means of analysis in studying and theorizing about the innovative organization.[1] "It has been commonplace among behavioral scientists that the bureaucratic form of organization is characterized by high productive efficiency but low innovative capacity."[2] "Bureaucratic structure exerts a constant pressure upon the official to be methodical, prudent, and disciplined,"[1] characteristics which act in opposition to innovation. The pressure to conform to rules may be felt to the extreme by organizational members, thus causing them to withhold novel approaches to problems. "In short, the bureaucracy is the most efficient organizational structure if you want reliability and repetitiveness, by definition almost the opposite of innovation."[2]

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[1] Peter M. Blau and Richard W. Scott, *Formal Organizations, A Comparative Approach* (San Francisco: Chandler Publishing Co., 1964), p. 34. Robert K. Merton, "Bureaucratic Structure and Personality," Joseph A. Litterer, *Organizations - Structure & Behavior* (New York: John Wiley & Sons Inc., 1963), p. 375. Thompson, *loc. cit.*, pp. 1-20. Wilson, *op. cit.*, pp. 195-218.

[2] Thompson, *loc. cit.*, p. 1.

Bureaucratic rules permit some employees to work without being emotionally committed to their tasks.[3] Because those who formulate the rules and procedures are unable to anticipate all problems, the rules which are designed for efficiency may actually contribute to the inefficiency of an organization and to its inability to adapt or innovate. Strict conformity to bureaucratic rules may be associated with timidity, conservatism, technicism and preciseness, and conversely, the striving for innovation rather than rigorousness has a restraining effect on bureaucratic tendencies.[4]

> It is often said that the creation of a new unit is the only way to secure innovation that is not excessively bound and hampered by tradition and precedent. Similarly, it is often claimed that the personality traits required of top executives during such an innovating phase are different from the traits required during the subsequent program-execution stage. The differences are in the obvious direction "idea man" versus orderly bureaucrat.[5]

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[1] Merton, *loc. cit.*

[2] Selwin W. Becker, *The Innovative Organization,* Selected Papers No. 14, University of Chicago (Chicago: Graduate School of Business, 1964), p. 7.

[3] Alvin W. Gouldner, "About the Function of Bureaucratic Rules," in Joseph A. Litterer, *Organizations: Structure & Behavior,* p. 394.

[4] Blau and Scott, *loc. cit.*

[5] James G. March and Herbert A. Simon, *Organizations* (New York: John Wiley & Sons, Inc., 1966), p. 187.

Theoreticians on organization have observed that the proclivity for innovation in an organization can be related to the administrative environment in which the organizational membership functions. They also indicate that certain extreme interpretations of bureaucratic control on the part of organizational administrators have a tendency to discourage innovative inclinations in subordinates. "The more an organization is bureaucratized the more the conforming behavior of people in the organization will tend to be perceived as imposed upon them by the rules, rather than as voluntary."[1]

Furthermore, the characteristics of bureaucracy in organization are conceived as varying along a continuum from rigidity to flexibility in terms of their application in any given setting. Gouldner, Burns and Stalker have suggested that the bureaucratic concept be used in this dimensional manner, and Hall, Burns and Stalker have used this approach in studying organizations; hence, it should be appropriate to develop a theoretical framework based on these concepts.[2] Although there are an infinite number of ways to study organizations, this approach, using a dimensional concept of bureaucracy, was chosen because it provides a systematic means of looking at what seems to be some of the most important factors relating to organizational innovation.

Theoretical Framework for the Study

Weber, Merton, Litwak, Friedrick, Parsons, Udy, Heady and Berger, eight progenitors of bureaucratic discourse, collectively have delineated the following eleven bureaucratic characteristics: "hierarchy of authority," "division of labor," "technically competent participants," "procedural devices for work situations," "rules governing behavior of members," "limited authority of office," "differential rewards of office," "impersonality of personal contact," "administration separate from ownership," emphasis on written communication" and "rational discipline and control."[1] Five of the most commonly recognized characteristics appear to have relevance to the study of the innovative organization: (1) *hierarchy of authority*, (2) *division of labor*, (3) *rules governing behavior of members*, (4) *differential rewards of office*, and (5) *impersonality in personal contact*.

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[1] Alvin W. Gouldner, "Organizational Analysis," eds. R. K. Merton, L. Broom, and L. S. Cottrell, *Sociology Today* (New York: Basic Books, 1958, pp. 425-426.

[2] *Ibid.* Richard H. Hall, "Intraorganizational Structure Variation: Application of the Bureaucratic Model," *Administrative Science Quarterly*, VII (1962-63), 298. T. Burns and G. M. Stalker, *The Management of Innovation* (Chicago: Quadrangel Books, 1961), p. 122.

Two of the eleven characteristics, "procedural devices for work situations" and "emphasis on written communication," are considered to be relevant to the focus of this study but are to be given attention as factors in the five selected characteristics. "Procedural devices" are being considered as part of the rules governing behavior of members. "Communication" is felt to be a factor in those characteristics chosen for the study because it is inherent in them and thus not nearly so exclusive a characteristic as are the selected five. The characteristic of "technically competent participants" would be more or less relevant depending upon what segments of an organizational group are being studied. Where a stratified sample is taken entirely from specialists or professionals, this characteristic would seem to be inapplicable. "Administration separate from ownership," "rational discipline and control," and "limited authority of office" seem to lack relevance for this study and are not supported in the literature by theoretical argumentation *vis-à-vis* organizational innovativeness.

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[1] Hall, *loc. cit.*

A discussion of the five characteristics which have been proposed for use in the study will reveal some of the factors of these characteristics that are believed to influence innovativeness in program development.

Hierarchy of Authority and Decision Making

The hierarchy of authority means that a lower position is under the control and supervision of a higher one, and no position is left without control.[1] "A hierarchy is a system of roles - the roles of subordination and superordination. A role is an organized pattern of behavior in accordance with the expectations of others,"[2] thus roles are learned cultural patterns of behavior.

> For maximum efficiency a hierarchy or delimitation of jobs should be based on merit. Setting up a hierarchy based on merit is a relatively simple matter when dealing with one uniform event. However, if the event is relatively unique, it is difficult for any one hierarchy to suffice for all tasks in the organization. Yet this is the assumption which must be made in all cases where Weber's specifications are applied to organizations dealing with the non-uniform.[3]

If provisions are to be made for unique events, and innovations are unique events, it may be necessary to permit each individual to have some discretionary authority *vis-à-vis* decision-making on the job, and this concession is a step in the direction of collegial or professional rather than hierarchical relationships. Litterer writes that "in times of business crisis it is not uncommon to find decision-making powers being pulled up the hierarchy,"[1] but he applies this statement in an abnormal crisis situation where rapid environmental changes make the revision of organizational goals or policy mandatory. Organizational policy is normally formulated and sanctioned by the upper levels of the administrative hierarchy regardless of the organization, and policy-making is only one of numerous functions of the organizational membership where decision-making occurs.

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[1] *From Max Weber: Essays in Sociology*, trans. H. H. Gorth and C. Wright Mills (New York: Oxford University Press, 1946), p. 197.

[2] Victor A. Thompson, "Hierarchy, Specialization, and Organizational Conflict," *Administrative Science Quarterly*, V (1960-61), 486.

[3] Eugene Litwak, "Models of Bureaucracy Which Permit Conflict," *American Journal of Sociology*, LXVII (1961), 178.

Human relation specialists argue that decentralization of decision-making authority increases job satisfaction and reduces resistance to change.[2] Hage and Aiken in their study of program change conclude that given a high rate of program change, "there is likely to be relatively decentralized decision-making because of the necessity for discussions about the problems of change."[3] The hierarchy of authority and delegation of decision-making powers seems to be closely related to organizational change, and innovation may take place as organizations attempt to change.

> Innovative ideas are most likely to occur to persons who have some familiarity with the situation to which the ideas would apply. Hence most novel ideas are likely to be generated at some distance from the power center of the organization. Since new ideas are disturbances, they are efficiently screened out of the stream of upward communication. But because power

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[1] Joseph A. Litterer, *The Analysis of Organizations* (New York: John Wiley & Sons, Inc., 1965), p. 316.

[2] Lester Coch and John French, Jr., "Overcoming Resistance to Change," *Human Relations*, I (1948), 512-532.

[3] Hage and Aiken, *loc. cit.*, p. 517.

> is centralized at the top, top support for an idea is almost a necessity if it is to move toward becoming an innovation.[1]

Innovations affecting more than one unit of the organization would require approval at a hierarchical level where authority exists over the units involved, and therefore, obtaining approval is an increasingly complex matter.[2]

Division of Labor and the Conception, Communication and Implementation of New Ideas

A systematic division of labor specifying rights, boundaries of activities, specialties or competencies is an essential bureaucratic characteristic. To assure predictability and accountability of each office holder and to prevent duplication or overlap in work roles, each person's duties and jurisdictions are carefully defined as in job descriptions. Problems which go beyond the jurisdiction of a particular role incumbent are referred to a higher level of authority.[3] Within this pattern of organization, strong sub-units develop with goals peculiar to each unit, and interest in what other sub-units are doing diminishes as attention of the sub-unit membership is fixed increasingly upon intramural activities.

> There are certain required contacts a job holder must make with other people. The number of people with whom he comes into contact and the frequency and duration of the contacts is drastically influenced by the way work is divided. In brief, the more specialized work becomes, the fewer, less frequent, and the shorter become required interpersonal contacts.[4]

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[1] Herbert A. Shepard, "Innovation-Resisting and Innovation-Producing Organizations," *Journal of Business*, XL (October, 1967), 471.

[2] Thompson, "Bureaucracy and Innovation," *loc. cit.*, p. 6.

[3] *From Max Weber*, p. 196.

[4] Litterer, *The Analysis of Organizations*, p. 193.

A narrow division of specialized assignments between the sub-units is justified as a means of focusing on each individual's responsibility but is thought to encourage irresponsibility as far as new ideas are concerned. Staff members are deprived of the diversity of inputs so important in the conception of new ideas and may draw on only a small portion of the resources which might be used in developing innovative outputs. The division of labor serves to segment and isolate the resources of the organization which ideally would be readily available for innovative program development, and if the division of labor is rigidly applied, it may act as a communication barrier in the diffusion and acceptance of new ideas within the organization.[1]

Rules and Procedures Governing Behavior of Organizational Members

Official functions of members of bureaucratic organizations are bound by rules. The system of rules or regulations delimits the scope of individual behavior and facilitates standardization and equality in relationships with clientele and fellow workers; it also reduces the amount of effort needed in performing recurring specific tasks because the rules obviate the need for deriving new solutions to each separate problem.[2] Rules serve as an aid to the administrator in predicting the course of action that subordinates will take, so the greater the administrator's need for control, the more profuse and confining the rules will be. Conversely, vagueness about jurisdictions and relationships will make considerably more communication necessary. Participants in the organization will find it expedient to define and redefine their responsibilities continually with each new problem. Researchers report in one study that a

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[1] Thompson, "Bureaucracy and Innovation," *loc. cit.*, p. 6.

[2] Weber, *op. cit.*, p. 330.

> . . . high rate of program change will necessitate the relaxation of rules in order to solve the problems of implementation. There will be conflicts between the demands of the new program and previous regulations that will make rule observation difficult.[1]

The innovative act is supported by considerable independence and self-direction; these are individual needs which require freedom from exacting rules.[2] The presence or absence of written rules may not, however, be an indicator of the degree of freedom for innovative activity, as some bureaucratic characteristics may be comparatively precise in the absence of rules or specified procedures. For this reason, it would seem that the observations of staff members regarding the inhibitiveness of rules and procedures is the best indicator for measuring the degree of bureaucratization in an organization, as it pertains to this particular characteristic.

Differential Rewards of Office and Motivating Factors

One of the criteria for advancement in the bureaucratic organization is the successful adjustment to the organizational patterns. Personnel policies with incentives for advancement on an equitable basis tend to maintain order. The bureaucratic organization has a system of advancement in rank and salary within a specialty area which is based upon seniority, merit and technical improvement in a work role,[1] but the highest monetary rewards for service in a bureaucracy are not in a specialty area but are reserved for administration or management. "Preoccupation with hierarchy governs the distribution of rewards by modern organization. Ranks of deference correspond to ranks of authority, and deference is manifest by the bestowal of good things."[2]

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[1] Hage and Aiken, *loc. cit.*

[2] Thompson, "Bureaucracy and Innovation," *loc. cit.*, pp. 1-20. Gouldner, *loc. cit.*, pp. 425-426.

Etzioni expresses the concept that the administrator of a professional organization must share the perspectives of the expert and the manager; thus, his role requires two incompatible sets of orientations. He also points out that most experts would refuse administrative positions because of their commitment to professional values and groups.[3] The specialist staff member who is motivated to seek the higher monetary reward levels in the bureaucracy will find it necessary to seek appointment to an administrative position. Since promotion to administrative positions may be dependent upon the subjective judgments of an employee's superiors, it is unlikely that the candidate for these positions will risk advocating any radical innovative changes which might cause his administrative superiors to question his judgment or ability.[4]

There are sources of rewards other than salary which may serve as prime motivating factors. The staff member may be strongly influenced by his colleagues in professional associations outside of the place of employment. He may be as much concerned with peer recognition as with advancement in salary and rank and may also be inclined to seek other organizational affiliations if the administrative procedures, where presently employed, tend to inhibit his inclinations for innovative activities by distributing rewards and recognition according to a meticulously interpreted bureaucratic pattern.[1] Hage and Aiken report that the amount of professional involvement is more highly related to program change than the amount of professional training an individual may have.[2] Exacting interpretations of bureaucratic administrative procedures with regard to employees' rewards appear to inhibit innovativeness in three ways: (1) by encouraging conformity to organizational patterns, (2) by causing those who are not inclined to adhere to the organizational pattern to look elsewhere for employment, and (3) by enticing specialists to leave the area of their greatest competence for an administrative position.

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[1] Weber, *op. cit.*, p. 334.

[2] Victor A. Thompson, *Modern Organization* (New York: Alfred Knopf, 1961), p. 21.

[3] Amitai Etzioni, "Authority Structure and Organizational Effectiveness," *Administrative Science Quarterly*, IV (June, 1959), 53-54.

[4] Thompson, "Bureaucracy and Innovation," *loc. cit.*, pp. 1-20. Thompson, *Modern Organization*, p. 61.

Impersonality and Interpersonal Relations

According to Weber, bureaucratic personnel must develop traits of character which permit them to interact with members and clientele of their organization in such a way that emotional tendencies or personal feelings are suppressed. The development of strong feelings toward fellow workers or clients may influence the decisions which are made concerning them. Personal interests make impartial treatment difficult to achieve as these situations arise. It is, therefore, prudent for the bureaucratic official to maintain social aloofness from the people with whom he is associated as clients or as subordinates within the organizational group, especially if he is required to make value judgments relative to the merits of subordinates.[1]

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[1] *Ibid.*

[2] Hage and Aiken, *loc. cit.*, p. 509.

A command from a superordinate in authority may be sufficient to implement an innovative idea, but there is a question about how enthusiastically the innovation will be supported by the organizational membership in subordinate positions, unless the authority of the persons giving the command is legitimated through a supreme being or through the influences emanating from charismatic leadership.[2] A more rational approach, and the one preferred by the writer, would have those who are affected by the implementation of an innovation involved in the deliberations concerning its acceptance or rejection prior to the time when implementation occurs. This requires relatively cohesive group interaction with representation from several hierarchical authority levels within an organization. Impersonal relationships among staff members severely limit cohesive group interaction and make it difficult for the innovator to gain acceptance of his proposal. Argyris stresses the optimum development of interpersonal competence as a very important factor contributing to the ability of an organization to innovate.[1]

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[1] Weber, *op. cit.*, p. 340.

[2] Roy reports on two studies where industrial workers were able to avert management directives without appearing to be insubordinate in their actions. "Insistence by management on purely economic logics, plus frequent changes in such logics in adaptation to technological change, results in lack of understanding on the part of the workers." As a result of their frustrations, organized resistance to the economic logics of management developed among the workers and the management was prevented from fully realizing its objectives. Donald Roy, "Selections from Quota Restriction and Goldbricking in A Machine Shop," in Litterer, *Organizations: Structure & Behavior*, pp. 148-151. Donald Roy, "Efficiency and 'the Fix:' Informal Intergroup Relations in a Piecework Machine Shop," in Litterer, *Organizations: Structure & Behavior*, pp. 152-162.

Impersonal relationships between staff members and the clientele of an organization may also serve as a deterrent in achieving understanding. If the staff member is dependent upon the clientele for information to help in making decisions on the processes, products or services of the organization, impersonal relationships may diminish the sources of data necessary for innovative and significant problem solutions. It appears that the free interchange of ideas among staff members in all segments of the system, at all hierarchical levels, and between staff members and the clientele of the organization will be conducive to innovation within the organization because multiple and diverse sources of information can be focused upon a problem, and group involvement may also contribute to the ultimate acceptance of innovation.[2]

This study is based upon the theoretical concepts which have been presented, and an attempt will be made to provide empirical evidence to support the posited theory concerning possible relationships between the degree of bureaucratization perceived by members of an organization and the demonstrated ability of the organization to be innovative in the development of its program.

Definition of the Innovative Organization

Innovativeness in program development must be defined in such a way that it can be observed and measured for the purpose of rating adult education organizations. As has been stated previously, the term innovation used in this study is not to be thought of only as the invention of a new idea or practice. Adapting or applying new ideas or practices may also be an innovative act. The third stage of innovation as previously presented, "the acceptance and implementation of a new idea," is the phase of development where the new idea or practice becomes observable as a part of the program of an organization. A new idea or practice may be held in the mind as a concept or it may be communicated to someone other than the innovator, but until the innovation is implemented, it is not a contributing part of the organizational program.

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[1] Chris Argyris, *Organization and Innovation* (Homewood, Ill.: Irwin Press, 1965), pp. 233-240.

[2] Thompson, "Bureaucracy and Innovation," *loc. cit.*, p. 14. Becker, *loc. cit.*

The innovator may find opportunities to exercise his capacities both in the renewal of the structure and the functions of organizations. Areas within the organizational structure and functions where innovation might be expected to occur will be presented in the following section.

Indices of Innovation

Indices of innovation may be categorized under the headings of services, processes, products, organizational structure modifications and under some circumstances the involvement of new people or clientele either internally or externally to the organization.

Services or policy innovations

Service or policy innovations in program development involve concepts that focus on basic redefinitions of the goals of the organization or on the formation of new goals. These types of innovations are sanctioned by staff members at the top levels of the organizational hierarchy and are generally their responsibility but may be initiated at any hierarchical level. Policy makers in the innovative organization are cognizant of the changing environment and the meaning this evolvement has in terms of the purposes of the organization. Policy leadership and implementation may thus be a factor contributing to an innovative program.

Process or procedural innovations

Process or procedural innovations in program development may be initiated at any level in the organizational hierarchy; however, supervisory and program staff members are usually expected to function in this area. Leaders in the innovative organization will permit a wide range of discretion for all levels of staff members as program procedures are developed with broad guidelines set by established policy.

Product innovations

Product innovations in program development are the new tangible things conceived and produced by organizational members as specific program objectives are being accomplished. Product innovations may consist of an invention or unique adaptation of equipment which is applied to a new program situation. An example of a product innovation could be a packaged program offering or a programmed text, the concept of which is new to Cooperative Extension Service organizations, or it could be a newly conceived piece of equipment or a teaching aid.

Organizational structure innovations

Certain organizational structure modifications are characteristic of the innovative organization. A restructuring of the organization may be made to facilitate the introduction of new programs or to make new methods possible in conducting established programs. Finance for new programs may be made available by reallocating funds. The administrators, supervisors and program staff members may take money budgeted for programs which they perceive to be less promising and apply it to new endeavors for which they have positive expectations. Adjustments will be required in the amount of time allotted to the various program specialties as the innovative organization successfully expands its activities into new areas. The addition of physical facilities and equipment may indicate innovation if they are needed for new programs or new clientele. Growth in physical facilities for the purpose of expanding existing programs and clientele numbers may not be an indicator of innovation. Provisions are made in the innovative organization for discarding those aspects of the program which are not receiving support from the clientele or sponsors in order to distribute resources more efficiently for priority programs which have promise of extensive support and positive results.

Personnel and clientele innovations

Leaders of the innovative organization stress the importance of identifying and serving new clientele and the focus of the organization will be external rather than internal in relation to the potential opportunities for organizational growth and development. New people may be involved both internally and externally in the operation of the innovative organization. The qualifications needed by new staff members are determined more on the basis of projected program trends than by duplicating the skills of former role incumbents.

In consideration of foregoing statements one might be inclined to think of innovation as a universal good in organizations, but the writer does *not* intend to imply that innovation in an organization is conceived as being an entirely positive or constructive factor in relation to all organizational situations.

The membership of an innovative organization may demonstrate an ability to identify environmental problems and show sensitivity and skill in making adjustments which will facilitate solutions to these problems, or the membership may follow a program of change characterized by unusual new proposals which are wholly unrealistic in terms of meeting the challenges presented by the milieu; in other words the innovative activity may be nonadaptive.

A major innovation in program development will usually require extensive adjustments in one or more of the indices cited. The number of indices of innovation involved and the extent of the adjustments required will determine the cost or magnitude of the innovations as well as the level of innovativeness in the total organization.

Giving consideration to the theories which have been presented, the writer hypothesized that certain relationships would exist between the bureaucratic character of an adult education organization and its ability to be innovative in program development. The relationships which were believed to exist will now be presented.

Hypotheses

The writer selected a five dimensional bureaucratic model as a framework for approaching the problem of measuring organizational members' perceptions of bureaucratic character, and the dimensions to be measured were those previously identified as having relationships to innovativeness in organizations. The hypotheses which follow have been formulated on the basis of the theoretical presentation and will be tested to determine the significance of each in relation to high and low levels of demonstrated innovativeness in program development.

1. It is hypothesized that the staff members of the more innovative organizations will perceive the hierarchy of authority as being pliable in application, loosely interpreted and applied; and conversely, the staff members of the less innovative organizations will perceive the hierarchy of authority as being precise in application and strictly interpreted by the administrative staff.

2. It is hypothesized that the staff members of the more innovative organizations will perceive the boundaries between sub-units or specialties to be pliable and somewhat undifferentiated in terms of individual roles, and conversely, the staff members of the less innovative organizations will perceive the boundaries between sub-units as setting discrete limits of responsibility, interest and required activity in the organization.

3. It is hypothesized that staff members of the more innovative organizations will tend *not* to perceive the work rules and procedures to be a means of placing restrictions on their behavior, while staff members of the less innovative organizations will perceive the rules and procedures as a means of constraining their activities or behavior.

4. It is hypothesized that the staff members of the more innovative organizations will tend to place emphasis upon receiving their occupational compensation and rewards through opportunities for professional recognition, growth and development in their field, while staff members of the less innovative organizations will tend to perceive their rewards as coming predominately from salary, job status, and advancement in rank within the organizational hierarchy.

5. It is hypothesized that the staff members of the more innovative organizations will perceive the norms of the organization as quite permissive of personal and social interaction between all staff members both horizontally and vertically in the organizational structure and between staff members and the organizational clientele, while these relationships will be perceived by staff members in the less innovative organization as being subject to constraints.

Null hypotheses have been developed for statistical analysis as follows:

Relative to the most innovative and the least innovative organizations there will be no significant difference between the mean scores for each of the five scales used in measuring bureaucratic characteristics on:

1. the hierarchy of authority continuum,
2. the division of labor continuum,
3. the rules and procedures continuum,
4. The differential rewards continuum, and
5. the impersonality of inter-personal relations continuum.

To test the hypotheses procedures were developed for the ranking of organizations on their program innovativeness and for obtaining the perceptions of the personnel in the organizations relative to the five bureaucratic characteristics, and these procedures will be explained in Chapter IV.

Summary

It has been stressed that organizations are resistant to change, and that in a milieu characterized by change, the ability of an organization to survive may depend upon the willingness and capacities of participants to be innovative. The innovative organization has been examined according to the concepts of those who have studied the phenomena, and a number of leading theories have been presented. Characteristics of the administration or of the management of organizations appear to be quite significant in relation to the innovativeness of organizations whether they be industrial establishments or educational and social institutions. A bureaucratic model was proposed as a theoretical framework to approach the problem of organizational administration and innovativeness in program. Arguments for five bureaucratic characteristics were presented utilizing the supportive literature on design and analysis of organization and empirical studies relating to the problem. The hypotheses were derived logically from the theories which have been presented and are to be tested in the null form.

The next phase of the study was the development of a questionnaire to measure administrative characteristics as perceived by members of organizations holding positions below the administrative level. The instrument construction and testing will be reported in the following chapter.

CHAPTER III

INSTRUMENT CONSTRUCTION

Those who profess to study bureaucracy often assume that the organizations being investigated are bureaucratic without attempting to develop empirical measures of bureaucratic characteristics. One of the major tasks of this study was to develop an instrument which would indicate the degree to which bureaucratic characteristics were perceived by employees to be present in the organizations being studied. Bureaucracy is perceived as a multi-dimensional concept and an instrument was developed with scales capable of measuring each of the five selected dimensions discussed in Chapter II.

The Problem of Scale Construction

In considering the construction of the scales, three problems became readily apparent to the investigator. The first concerned the exclusiveness of each of the five scales, since it was intended that each scale measure a separate characteristic of a unified whole--the organization. The scales would have to be developed so that they would reflect the profile of the total organization and yet minimize overlapping between individual characteristics.

The second problem concerned the items to be used within each scale. A given characteristic of bureaucracy is not uni-dimensional because there are a number of contributing factors which may or may not be present to the same degree. For example, when one looks at rewards, the satisfaction of both maintenance and motivational needs must be considered. For this reason, measures of reliability utilizing the internal consistency of each scale were not considered to be appropriate for the instrument. The consistency of the responses in a test retest situation was regarded as the most appropriate measure of reliability.

A third problem concerned the length of the instrument. Each of the five scales should be long enough to provide a logically valid measure of the characteristics being studied, and short enough so that those who responded to the scales would be willing to complete the instrument carefully and consistently. The validity of the scales was dependent upon how adequately the scale items covered those aspects of characteristics as defined and purportedly being measured by each scale, how well the respondents interpreted the meaning of the items within the scales and how accurately they reported their perceptions of the characteristic being measured.

The focus of this study is directed toward obtaining a profile of organizations, and the profile is to be projected from the five characteristics of bureaucracy and not from the uniqueness of the individual in an organization relative to these characteristics. For this reason, the internal-consistency method of scale construction which had been used in personality inventories and instruments such as those developed by Rundquist, Sletto, and Hall, was considered to be an inappropriate technique to use in the construction of the scales for this research.[1]

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[1] Edward A. Rundquist, and Raymond F. Sletto, *Personality in the Depression* (Minneapolis: University of Minnesota Press, 1936). Franklin R. Sletto, *Construction of Personality Scales by the Criterion of Internal Consistency* (Minneapolis: The Sociological Press, 1937). Richard H. Hall, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Organizational Characteristics" (unpublished Ph.D. dissertation, Ohio State University, 1961).

It is recognized that the percepts of individuals may vary even though they are exposed to identical stimuli. This variation may be attributed at least in part to the conceptual scheme which is the reference point from which perceptions are formed. Because of the varied experiences of those responding to statements on bureaucracy, it was anticipated that the statements would not evoke identical responses from the subjects of the study.

There are also differences in the way people react to choices on a scale. Some people are quite conservative in responding and tend to avoid the extreme choices, while others are prone to utilize quite fully the extremeties of a scale. The differences in experiences, in perceptions, in attitudes and in motives will bring about variance in the responses of the membership of an organization to a given stimuli, but it is also anticipated that dimensional administrative characteristics of organizations can be measured by utilizing the variance between the combined responses of organizational groups. The combined response will provide the organizational profile.

A statistical technique was needed which could be used as a basis for the selection and elimination of items, one which would aid in identifying those items giving the most discriminative measures of bureaucratic characteristics with the least amount of variance between respondents in a given organizational setting. The amount of the difference between the mean scores of respondents in both the more and the less bureaucratized organizations is an important factor, but the variance of the responses must also be considered. The greater the difference between mean scores for the more and the less bureaucratized organizations and the smaller the variance of scores within organizations, the more discriminative the items will be in measurement. The approach used in solving the forenamed problems and the statistical methods applied in item selection will be described as the procedures for developing the instrument are presented.

Development of Scales for Measuring Bureaucratic Characteristics

Ideas for the development of the statements used in the five scales representing the selected characteristics of bureaucracy were obtained from a variety of sources. Hall[1] developed an instrument to measure six characteristics of bureaucracy, three of which had factors in common with the five characteristics selected for this research, but many of Hall's statements were written in the vernacular of the laboring classes in industrial organizations. Even though professional workers in a variety of organizations might understand the meaning of the statements, the use of such jargon seemed to be inappropriate for this particular situation, so the statements which were applicable to the problem were rewritten with suitable phraseology.

Other suggestions which were used in formulating the statements were obtained from the literature on bureaucracy and organization. Each statement was categorized under that characteristic of bureaucracy which it appeared to represent most logically. The statements were examined by the investigator and two other organizational researchers. In the examination of the statements, an attempt was made to determine how well important aspects of the bureaucratic characteristics, as delineated in the definition and description, were covered and whether or not the statements selected were relevant to the definition.

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[1] Hall, "An Empirical Study . . . ," *loc. cit.*

The five scales in the pilot study instrument each contained statements which were designed for the organizations to be studied. In preparing the statements terminology was utilized which could be appropriately applied in several different types of organizations that employed people at the professional level of competence; these statements were generally descriptive of organizational characteristics, but sufficiently specific so that a respondent could determine their relevance to his perceptions of the work situation. The decision was made to avoid the use of first person in formulating the statements because it was felt that the respondents would be more inclined to give their true feelings if their responses to the statements were considered by them to be possible perceptions of the situation for not only themselves but also for their colleagues.

Each statement was assigned five possible choices for the response. They were "definitely true" (DT), "generally true" (GT), "undecided" (U), "generally false" (GF) and "definitely false" (DF) in that order. The respondents were instructed to indicate how well each statement characterized their organization by circling one of the five responses. Three different ways of identifying the five responses were considered in preliminary tests of the pilot study instrument before the method which appeared to be most desirable was chosen. The approach used seemed to be most acceptable to those who responded to the instrument and yielded more reliable responses than did the other methods.

Scoring was accomplished by assigning the numerical values of "one" through "five" or "five" through "one" to the choices following each statement. The direction for weighting each statement was assumed at first and later tested in the item analysis. The number "one" (1) was made representative of the "rigid" end of the bureaucratic continuum and a "five" (5) representative of the "flexible" end of the continuum and "two" (2), "three" (3) and "four" (4) at equal intervals between. The score for each scale was the sum of the scores for each statement within that scale. In an attempt to simplify scoring procedures, the numerical values were placed under the response choices on copies of the preliminary instrument, but respondents indicated that numbers might have an influence on the way they reacted to the statements so the numerical values were not placed on either the pilot study instrument or the final instrument.

Six graduate students, all having had professional work experience in the adult education organizations to be studied, were asked to respond to the instrument on the basis of their past experience with these organizations. Following their responses to the statements, an interview was conducted with each student for the purpose of identifying statements which were considered to be ambiguous, irrelevant to their work situations, or which failed to convey the intended meaning. Approximately 10 percent of the statements were eliminated, 30 percent were revised and 10 percent were added, and the same procedure was used in rechecking the tentative instrument. After numerous revisions, twenty-six statements were selected for each of the five scales; half of the statements were to be descriptive of a rigid bureaucratic administration, and half were to be descriptive of the flexible bureaucratic administration.

One-hundred-thirty statements were used with the pilot study instrument so that there would be sufficient choice in the selection and elimination of statements for the final instrument. The pilot study instrument was administered once, revised and tested a second time on approximately twenty graduate students in adult education whose work experience represented a variety of organizational situations. The responses to the instrument and subsequent interviews provided information for improving the statements, the definitions, and the instructions for completing the instrument. The responses also gave some indication as to whether the statements would discriminate with different organizational situations.

With further revisions the pilot study instrument was prepared for testing on ten selected organizations. After consultation with advisors and associates, five organizations were selected which were considered to be representative of the rigid (low) side of the bureaucratic continuum and five were selected to represent the flexible (high) side on the continuum. Administrators aided the investigator in the selection of personnel who might be willing to participate. A total of 126 staff members of the ten organizations were given copies of the questionnaire. The administrators were asked to stress the investigator's desire for voluntary participation by those who responded to the instrument. All of the respondents were interviewed by the investigator in six of the ten organizations, and the respondents of the six organizations confronted in this way returned all of the questionnaires. A limited number of the staff members of the other four organizations were available for interviews but fourteen of the questionnaires from these organizations were returned too late to be included in the summary. Eighty-nine per cent of those receiving questionnaires contributed data which were sufficiently complete to be included in the final analysis.

It was anticipated that the organizations selected might not be found consistently on one side of the continuum for all five scales. Subsequent interviews and testing supported this assumption. Scores for three of the ten organizations were consistently on the low side of the continuum in all scales, and two were consistently on the high side in all scales. Scores for two organizations were on the low side with the exception of one scale and one was on the high side except for one scale. The scores for one organization were high on three scales and low on two scales, and the scores were low on three scales and high on two scales for another.

The findings in each organization will now be considered individually.

Organization Number One

Organization number one is a relatively small educational institution operated under the direction of a department of the federal government. The investigator spent four days in a training program with eleven staff members of the organization and during this period was able to interview and converse informally with each of the conferees on the administrative characteristics being studied. The questionnaire was completed by the eleven program participants near the end of the four-day period.

From the interviews it was determined that there were considerable differences in the way the staff members perceived the administrative characteristics under consideration. Four people who worked in either supervisory or administrative positions were interpreted as perceiving a lesser degree of bureaucratization on the five scales being measured than did the seven people who were not in the administrative and supervisory hierarchy. The staff members on the instructor level commented often on the restrictive administrative policies under which they were expected to operate. It was also pointed out by administrators that staff members were perceiving constraints in the organization which did not exist.

Because there were different levels of organizational responsibility represented by the respondents and because educational programs had been conducted during the past few months in an attempt to help the staff members operate in a flexible, less bureaucratized atmosphere, the investigator expected that the organizational profile as revealed by the instrument would not be as strongly bureaucratic as might have been indicated by the study of the organizational situation; however, the scale means were below the grand mean on all five scales (see Table 1), indicating a higher degree of bureaucratization than the average for the ten organizations studied. The possible range of the scores is between 26 and 130, and it was interesting to note that the lowest scores on both the high and low end of the continuum were obtained for the bureaucratic characteristic--rewards. Monetary rewards were above the average in this organization, but other factors in the reward system were reported to be less than satisfactory by organizational members.

The rewards score for organization number one varied more from the grand mean than any other scale score. Apparently the respondents perceived the reward system as being more highly bureaucratized than any of the other characteristics being measured. All grand mean scores are the sum of ten organizational means on each scale divided by ten.

TABLE 1.--Mean Scores from Organization Number "1" for the Five Scales on the Bureaucratic Continuum, the Range of Scores, and the Grand Mean for the Ten Pilot Study Organizations (n = 11)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	83.09	70 - 104	86.92
B- Division of Labor	80.28	71 - 99	82.15
C- Rules and Procedures	78.46	64 - 88	81.87
D- Rewards	67.30	50 - 83	79.17
E- Interpersonal Relationships	75.62	66 - 86	77.53

Organization Number Two

Organization number two is a relatively large research institution, financed by the federal government and administered by a private midwestern university. The twelve staff members responding to the instrument belonged to one division of the organization and were responsible to the same administrator. It was anticipated that organization number two would be representative of those organizations where staff members perceived a low degree of bureaucratization.

A subsequent investigation furnished evidence to support this belief with the stipulation that the sample being considered was limited to the professional, salaried, research staff members. The unionized, skilled labor personnel, and certain departments serving auxiliary functions to the research divisions of this organization were considered to be highly bureaucratized in terms of administrative structure and functions.

The professional research staff was found to have considerable latitude for decision-making and did not perceive a rigid authority structure in the organization. There was considerable interaction between staff members in various departmental groups both on and off the job; requirements for working hours were observed to be quite flexible; and each person had authority to make decisions concerning his expenditures so long as he respected the limits of his budget allowance for a given project. Researchers generally did not feel that their work interests and efforts were hampered by organizational rules. The reward system provided for professional improvement, and staff members considered their performance to be more important than length of service in determining salary increases and advancement in status. The research staff members appeared to be operating under circumstances of less bureaucratization than many of the other organizations that were studied.

It was anticipated that the instrument would show a low degree of bureaucratization for the perceptions of administrative characteristics as revealed by the twelve research staff members of organization number two. This was true with the exception of one respondent who was below the grand mean on four of the five scales. The mean scores for organization number two were above the grand mean in all five scales (see Table 2), indicating that staff members as a whole perceived a low degree of bureaucratization in the administrative structure and functions of organization number two. The lowest scores on the five scales came from the same two individuals, one of whom gave a very unique report when interviewed concerning his impressions of the administrative characteristics of the organization with which he was employed. Other members of the organization predicted that this would happen, but seemed to be unconcerned about the presence in the organization of an individual who preferred to be different.

TABLE 2.--Mean Scores from Organization Number "2" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 12)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	100.74	78 - 111	86.92
B- Division of Labor	86.40	64 - 95	82.15
C- Rules and Procedures	89.14	80 - 97	81.87
D- Rewards	88.78	76 - 102	79.17
E- Interpersonal Relationships	84.50	64 - 93	77.53

As with organization number one, the score on scale D, rewards deviated most from the grand mean for all organizations, but with organization number two the difference is in the opposite direction, a lower degree of bureaucratization is perceived.

Organization Number Three

Organization number three is a sub-unit within the extension program of a private mid-western university. This sub-unit is administered as a separate and independent facility in relation to other extension functions, but comes under the direction of the Dean of Extension. The organization employs people ranging from those with a high level of skill and competence on the program staff to unskilled laborers who perform service and support functions under the direction of the business office. The twelve subjects for the pilot study were selected from both the program and business staff. All twelve participants were interviewed before they completed the questionnaire, and the investigator observed considerable variance among members of the staff concerning their perceptions of the administrative characteristics being studied. This organization was not comparable with the other two in terms of having either extreme rigidity or flexibility of administration. The organization had a handbook of rules and procedures which were generally followed by the staff only when it was convenient to do so. The authority structure was not well defined or understood by the interviewees. There was a distinct division of labor between the program and business functions, but within these two units there was considerable flexibility in work roles. Some saw the reward system as fulfilling their temporary needs and others expressed dissatisfaction with their situation because there seemed to be little opportunity for advancement and progress professionally. A number of those interviewed looked upon their job as a temporary situation. The staff members had little or no contact with each other off the job, and the interpersonal relationships at work between segments of the organization were said to be improving over what had existed previously.

On the basis of the interviews, the organization would be expected to score toward the rigid end of the bureaucratic continuum with the exception of the scale on rules and procedures. The instrument scores were below the grand mean on all five scales (see Table 3), but were not as strong in indicating above average bureaucratization as were some of the other organizations tested.

The heterogeneity of positions and training among the twelve respondents may have influenced their reported perceptions in such a way that the combined scores mediated those tending toward the extremes. There were twelve to thirteen points variation in scores on the high and low end of the five scales and a maximum of slightly over four points variation between the organizational mean and the grand mean. It appears that there is more variation among personnel within an organization than there is between the average scores of organizations.

TABLE 3.--Mean Scores from Organization Number "3" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 12)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	82.81	56 - 97	86.92
B- Division of Labor	81.83	68 - 93	82.15
C- Rules and Procedures	81.37	68 - 91	81.87
D- Rewards	75.11	55 - 85	79.17
E- Interpersonal Relationships	74.56	62 - 90	77.53

Organization Number Four

Organization number four is a large museum which depends upon several sources of income for its operation. The director of the museum is the top level, full-time, executive officer of the organization, and according to the organizational chart, he receives policy directions from a president, board of trustees, and lay committees. The staff members selected to participate in the pilot study held positions requiring specialized training and were two levels below the director in the personnel hierarchy. An attempt was made to select people holding positions with comparable levels of responsibility even though their work roles were quite different. Twelve people were interviewed and asked to respond to the instrument which was subsequently completed and returned to the investigator personally by the twelve respondents about one week later.

The museum was selected as an organization which would be representative of those tending to score on the flexible side of the continuum. Information which the investigator had obtained prior to conducting the study concerning the administration of the organization and the values held by many of the staff members supported the selection of this organization. The interviews which were conducted on three consecutive days reinforced the observation that a low degree of bureaucratization prevailed with the exception of the factors measured on the interpersonal relations scale. Interviews revealed that the museum staff believed the clientele of the museum to be the public in general, and most staff members felt that they had little or no need for personal contacts with most of the visitors to the museum. The main concern of the faculty was in being able to satisfy the needs of the lay citizen committees which had been appointed to consult and advise on the various organizational functions. One interviewee abhorred the suggestion of staff socials and indicated that the one attempt which had been made to bring the staff together was a complete failure. Interviewees reported that most of their social contacts were with people outside of the organization.

The reaction of interviewees on questions concerning inpersonal relations caused the investigator to look more closely at the level of interaction and cooperation between sub-units of the organization, but he was unable to uncover evidence to indicate that there was a problem of poor communication or cooperation between members of the staff. Scores on the responses to the instrument place the organization on the high end of the continuum with the exception of the interpersonal relations scale which was below average for the ten organizations (see Table 4). The person who provided the extremely low score of 26 on interpersonal relations stated in the interview that the idea of staff socials or any attempt to interfere with one's private life either on or off of the job was entirely unacceptable.

TABLE 4.--Mean Scores from Organization Number "4" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 12)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	96.85	81 - 111	86.92
B- Division of Labor	85.61	70 - 95	82.15
C- Rules and Procedures	86.37	74 - 98	81.87
D- Rewards	83.53	65 - 106	79.17
E- Interpersonal Relationships	75.44	26 - 91	77.53

The museum was considered to have a low degree of bureaucratization except on the characteristic of interpersonal relations. Such factors as highly specialized work functions, minimum need for interaction among staff and an urbanized environment did not support closer interpersonal relationships, and no concern was expressed by interviewees about the lack of closer interpersonal relationships.

Organization Number Five

Organization number five is a sub-unit of a private university and is engaged in studying problems of survey research and conducting surveys on a national basis. This organization had been recommended to the investigator by both current and former employees as one which permitted considerable freedom in performing work activities. It was felt that the survey researchers would be helpful in identifying problems relating to the design of the questionnaire.

Twelve people were asked to participate in the pilot study, and all of them responded. It took about four weeks to complete the interviews and collect all of the questionnaires. This organization was found to be one of the most consistent of those studied in terms of the staff members' perceptions of the administrative characteristics under consideration. It was difficult to complete the interviews with this organization, however, because some of the staff members' office hours were irregular and unanticipated changes in work activities brought about cancelled appointments and delays. The problem of making contacts and following up on appointments was due to the absence of regimentation or standardized routines in the administrative functions and structure.

Staff members saw themselves as being free to interact with colleagues or clientele on research problems. They were expected to direct their particular assigned projects and make decisions concerning them. The rules and procedures they followed were mainly dictated by the needs of the research problem, and the rewards system was seen as dependent upon their ability and the successful completion of the projects which they undertook. The summary of responses to the questionnaire reveals a high score for all characteristics and the highest composite score of the ten organizations in the pilot study (see Table 5).

On the basis of the results from a limited number of interviews and from the responses to the questionnaire, the investigator concluded that organization number five was the least bureaucratized of the ten organizations participating in the pilot study. The variation in individual scores was greater than the variation of the organizational mean from the grand mean for this organization which was determined to be the least bureaucratized of those studied.

TABLE 5.--Mean Scores from Organization Number "5" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 12)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	102.20	94 - 113	86.92
B- Division of Labor	91.79	72 - 101	82.15
C- Rules and Procedures	92.75	86 - 106	81.87
D- Rewards	92.48	82 - 103	79.17
E- Interpersonal Relationships	84.28	73 - 97	77.53

Organization Number Six

Organization number six was a small suburban bank serving a community of about 26,000 population. Most of the bank personnel lived in the community where the bank was located. The investigator was invited to observe the training procedures used for new employees and was given complete freedom in making contacts and conducting interviews with bank personnel. This bank was selected because the investigator was acquainted with the vice-president who could authorize the study of the bank and because the investigator assumed that bank employees' responses to the questionnaire would tend to produce scores on the rigid side of the bureaucratic continuum, particularly on the division of labor and the rules and procedures scales.

The bank had a distinct division of labor between the tellers, the mortgage loan staff, the accountants and the bookkeepers. Some of those who were interviewed made a special effort to be sure that the investigator understood how limited their knowledge was concerning other departments in the bank. The rules and procedures appeared to be as profuse and restrictive as any situation encountered in the pilot study. A salary schedule was followed and employees felt that salary and position were mainly dependent upon training, experience and tenure. The bank had a relatively small number of staff members, the authority structure was less complex and the interpersonal relationships were relatively informal.

A summary of the twelve questionnaires which represents all of the participants reveals that the perceptions of bank employees tend to be on the low side of the bureaucratic continuum with the exception of the interpersonal relations scale which was above the grand mean (see Table 6).

TABLE 6.--Mean Scores from Organization Number "6" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 12)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	85.01	71 - 103	86.92
B- Division of Labor	78.19	66 - 89	82.15
C- Rules and Procedures	73.52	56 - 95	81.87
D- Rewards	76.57	49 - 90	79.17
E- Interpersonal Relationships	83.54	58 - 89	77.53

The score on the rules and procedures scale is one of the two lowest scores for that scale in the pilot study which seems to indicate that bank employees perceive themselves as working under considerably more rigid bureaucratic controls in relation to this particular scale than do most of the employees of the other organizations studied. The bank was determined by the investigator to be quite rigidly bureaucratic in its administrative characteristics.

Organization Number Seven

Organization number seven was a relatively large book publishing firm. When the firm was selected for the pilot study, the investigator felt that the firm would be found among those on the high side of the continuum, representing a low degree of bureaucratization. Organization number seven was found, subsequently, to be in a state of transition.

The publishing firm had been a family directed operation for many years, but recently a large corporation purchased the firm and was in the process of making adjustments in the newly acquired organization. At the time the investigator conducted the pilot study, a significant number of the long time employees had resigned, and some of those who were left in the new organizational situation expressed their apprehensions about future trends. Due to the unstable conditions in the organization and the numerous changes which were in process, the investigator found it difficult to obtain a representative profile of administrative characteristics which could be used to predict the outcome of the responses to the questionnaire. There were some differences of opinion among the administrators of the firm about granting permission for the study because they were also preparing for a personnel study at that time. After considering the situation in the firm, the investigator changed his expectations for this organization in terms of the responses to the questionnaire and decided that the firm would *not* be one with a low degree of bureaucratization.

With the exception of the two scales which were slightly above the mid-point on the continuum, the results were in accordance with the more rigid interpretation of administrative characteristics on the bureaucratic continuum. All of the ten people who were asked to respond to the instrument returned it, and the mean scores for the scales measuring their perceptions of the "hierarchy of authority," "division of labor," and "rewards" were below the grand mean for the ten organizations (see Table 7).

TABLE 7.--Mean Scores from Organization Number "7" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 10)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	75.40	55 - 93	86.92
B- Division of Labor	77.70	59 - 100	82.15
C- Rules and Procedures	82.34	70 - 93	81.87
D- Rewards	76.70	65 - 86	79.17
E- Interpersonal Relationships	80.34	72 - 91	77.53

The mean scores for the scales measuring the "rules and procedures" and the "interpersonal relations" were above the grand mean for the ten organizations. Because of the changes taking place in the organizations, the results from the questionnaires were considered to be quite tentative and probably did not contribute as much to the pilot study data as the other organizations being studied.

Organization Number Eight

The investigator was advised by associates to look at the nursing organization in hospitals as a possibility for obtaining data which would be representative of the rigid end of the bureaucratic continuum. Organization number eight is a private hospital nursing department in a large Mid-western city. Interviews were scheduled with personnel on the hospital nursing staff to determine if the anticipated administrative characteristics were perceived to be in existence by the nurses.

The authority structure in the organization was clearly delineated from the nurses aid through the staff nurse, the head nurse, the shift supervisor, the department supervisor to the nursing administration for all departments in the hospital. Departments were organized on the basis of medical problems and while it was possible to transfer from one department to another, it was found to be most convenient for the nurse to be assigned continuously in the department for which she was trained. Nurses tended to refer to their departments as specialties in terms of the services they performed and looked upon the authority structure as essential to the proper functioning of the nursing activities. The importance of adhering to rules and procedures was stressed and it was indicated that when a directive was questionable, it was passed on to a higher authority for a final decision. The alternative decisions which nurses would need to make in performing their assigned tasks were anticipated as far as possible and made a part of their training procedures. The reward system was reported as being rather rigid; the salaries were determined by a fixed schedule; and advancement in position was reported to be more dependent upon tenure in the organization than upon individual initiative. It was felt by some of the interviewees that more time could be made available for professional improvement of staff members. Generally the attitude expressed was that one should conform to the expectations of superiors in the organization in most situations.

The relationships between staff members and clientele were considered to be extremely important, and there were specified clinical procedures to follow in working with the clientele. Interpersonal relations between staff members outside of working hours were limited due to work schedules, and the nurses expressed preferences for making social contacts with people outside of the hospital organization.

The questionnaire was handed out to fifteen nurses in one department who had the same supervisor and worked on the same shift; eleven of those handed out were returned in time to be included in the summary of the data. The mean scores on each scale were below the ten organization grand mean for each scale (see Table 8), indicating that the administrative characteristics of the hospital nursing organization could be categorized on the rigidly bureaucratized end of the continuum.

The scores on the scale designating the division of labor were not as low as had been expected; further investigation revealed that the staff members were being exchanged between departments and between shifts more than had been ascertained previously. The work situation as indicated by the responses to the questionnaires would lead one to the conclusion that nurses in this organization perceived the administrative characteristics as being quite inflexible with the exception of the one characteristic, division of labor, which did not score as far from the mean as did the other four measures of bureaucracy.

TABLE 8.--Mean Scores from Organization Number "8" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 11)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	76.29	47 - 91	86.92
B- Division of Labor	80.67	73 - 88	82.15
C- Rules and Procedures	75.68	60 - 83	81.87
D- Rewards	74.35	63 - 82	79.17
E- Interpersonal Relationships	71.45	59 - 77	77.53

Organization Number Nine

Organization number nine was a large hospital operated by a religious denomination and located in the same city as the hospital previously mentioned. A similar procedure was followed in contacting the nursing staff as was used with organization number eight. Comparable results were expected on the questionnaire as the staff members perceptions were quite similar to those expressed by nurses in the other hospital.

The organization of the denominational hospital nursing staff had five levels in the supervisory structure and two levels in the administrative structure. They were designated as "nursing assistants," "staff nurses," "head nurses," "clinical supervisors," "building supervisors," and the levels of the administration were "associate director" and "director of nursing service." Organization number nine also had a policy of transferring the nursing staff members between departments and shifts as the work load required.

Fifteen questionnaires were given to the nurses on a particular shift in one department of the hospital just before a holiday weekend, thus complicating the problem of getting the questionnaires returned. Nine of the fifteen questionnaires were returned in time to be included in the final summary. The response to the questionnaire revealed a pattern similar to the other hospital nursing organization used in the pilot study (see Table 9).

TABLE 9.--Mean Scores from Organization Number "9" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 9)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	75.29	51 - 87	86.92
B- Division of Labor	83.35	64 - 99	82.15
C- Rules and Procedures	72.37	50 - 84	81.87
D- Rewards	70.46	58 - 84	79.17
E- Interpersonal Relationships	68.67	61 - 80	77.53

The scores on all scales were slightly lower than the other hospital with the exception of scale "B," the division of labor. Scales "A," hierarchy of authority, "C," rules and procedures, "D," rewards, and "E," interpersonal relations were the lowest of any of the ten organizations studied, indicating that these nurses perceived the administrative characteristics as being more rigid in terms of the bureaucratic continuum than did any of the other respondents in the pilot study.

Organization Number Ten

The tenth organization involved in the pilot study was a nonsectarian, religiously oriented, voluntary organization located in a large mid-western city. It was necessary to contact both full-time and part-time staff members working in the adult education program of the organization in order to have a sufficient number of respondents to the questionnaire from a single department. The respondents all worked under the same administrative head in the organization, but some of them looked upon their job as supplemental to their primary work activities, while others were full-time employees of the organization. Due to the differences in the way staff members were employed, inconsistencies were noted in the way they perceived certain aspects of the organization.

The authority structure of the organization is perceived by most of the participants as being quite flexible and free from formal constraints. The staff members were hired to teach specific courses for which they were considered to be best qualified as a result of their education, social, and employment experiences. The staff members lived in different areas of the city and generally had only limited contact with each other while carrying out their instructional responsibilities. As a result of these circumstances, each instructor was somewhat of a free agent in his own area of instruction and had very little interaction with other instructors. The courses were based more on popular demand than on a need for sequential relationships, and the instructors taught the courses because the activity contributed toward the fulfillment of a variety of their personal needs.

Organization number ten was selected to represent the flexible side of the bureaucratic continuum, and with the exception of scales "B" and

"E," division of labor and interpersonal relations, scored above the average as one of the ten organizations being studied. The division of labor scale was well below the average (see Table 10), and this is most likely due to the nature of the program and the staff working conditions as previously discussed.

TABLE 10.--Mean Scores from Organization Number "10" for the Five Scales on the Bureaucratic Continuum, the Range of Scores and the Grand Mean for the Ten Pilot Study Organizations (n = 11)

Scale	Organizational Mean	Organizational Range	Grand Mean
A- Hierarchy of Authority	91.54	69 - 126	86.92
B- Division of Labor	76.67	55 - 91	82.15
C- Rules and Procedures	86.74	59 - 94	81.87
D- Rewards	86.38	52 - 94	79.17
E- Interpersonal Relationships	76.93	46 - 90	77.53

The score on the interpersonal relations scale was about average for the ten organizations and would have been higher if only the full-time personnel had been included in the sample of fifteen staff members, eleven of whom responded. Organization number ten was considered to be among those with flexible administrative characteristics as measured on the bureaucratic continuum.

The data obtained from the 112 respondents in the ten organizations were used in the selection of items for development of a final instrument to measure the degree of bureaucratization of administrative characteristics in university extension service organizations. Several criticisms made concerning the pilot study instrument were considered in developing the final copy. A number of respondents objected to its length, 130 items; some objected to the repetition of statements; and there were criticisms about the syntax of a few statements. The construction of the final instrument will now be considered.

Procedures Used in Developing the Final Instrument

The purpose of the final instrument or "organizational inventory" as it was titled was to provide a means by which the administrative characteristics of adult education organizations could be placed on a continuum according to the five bureaucratic dimensions previously described. Individual responses were important only as they contributed to a representative profile of the organization in relation to perceptions of staff members. It was recognized that there would be differences in the perceptions of staff members on the administrative characteristics, and the reasons for some of these differences were noted in the report of the pilot study; however, it was decided that those items which permitted the smallest variance would give the most consistent and reliable measures of the characteristics being studied. It was also necessary to have items which permitted the greatest amount of discrimination between the rigid and the flexible bureaucratic administrative characteristics being measured. A procedure for item selection was developed with these specifications as a guide.

Item Analysis

The ten organization, grand mean scores on the five scales were subtracted from the mean scores on each respective scale in each of the ten organizations to determine the side of the continuum on which scores should be assigned for item analysis. If the difference was positive, the mean score for that scale was assigned in the "high" category, meaning flexible administrative characteristics, and if the difference was negative, the mean score was assigned in the "low" category, meaning rigid administrative characteristics (see Table 11).

TABLE 11.--The Difference Between the Individual Mean Scores of Ten Organizations and the Grand Mean Scores for Each of the Five Scales*

Organization Number	Scale				
	A	B	C	D	E
1	- 3.83	- 1.87	- 3.41	- 11.87	- 1.91
2	+ 13.82	- 4.25	+ 7.27	+ 9.61	+ 6.97
3	- 4.11	- .32	- .50	- 4.06	- 2.97
4	+ 9.93	+ 3.46	+ 4.50	+ 4.36	- 2.09
5	+ 15.28	+ 9.64	+ 10.88	+ 13.31	+ 6.75
6	- 1.91	- 3.96	- 8.35	- 2.60	+ 6.01
7	- 11.52	- 4.45	+ .47	- 2.41	+ 2.81
8	- 10.63	- 1.48	- 6.19	- 4.82	- 6.08
9	- 11.63	+ .20	- 9.50	- 8.71	- 8.86
10	+ 4.62	- 5.48	+ 4.87	+ 7.21	- .60

*Difference = $\bar{X} - \bar{\bar{X}}$, $\bar{X}$ = mean, $\bar{\bar{X}}$ = Grand mean, High Category = "+," Low Category = "-."

It was assumed that the majority of the items in a given scale would measure the administrative characteristics identified with that scale. This assumption was investigated as part of the pilot study and found to be correct.

Each item in the responses to the pilot study questionnaire was assigned either to a "high" or a "low" category depending upon the assignment of the scale of which that item was a part. If all of the scales measuring a particular organization were above the grand mean, the organization would be assigned in the "high" category. If the five scales in questionnaires from respondents in a particular organization were scored partly above and partly below the grand mean, the organization was assigned to "high" or "low" categories on the basis of the scores for each scale.

The item mean and variance for organizations assigned in both the high and low categories are given in Appendix II along with the standard deviation of the mean and an index of item discrimination (ID) which was determined by the use of the following formulas:

$$ID = \frac{\overline{X}_H - \overline{X}_L}{S_T} \qquad S_T = \sqrt{\frac{S_H^2 + S_L^2}{2}}$$

$\overline{X}_H$ = the mean for all responses to a particular item in a scale assigned to a "high" category.

$\overline{X}_L$ = the mean for all responses to a particular item in a scale assigned to a "low" category.

S_H^2 = the variance for all responses to a particular item in a scale assigned to a "high" category.

S_L^2 = the variance for all responses to a particular item in a scale assigned to a "low" category.

There were 14 items out of the 130 which had a negative index of discrimination, indicating that they did not contribute to the measurement of the administrative characteristics as had been anticipated in the construction of the pilot study instrument. Those items with the highest positive index numbers were considered to be the most discriminative in measuring the differences between the rigid and flexible administrative characteristics on each of the bureaucratic dimensions. The index values were ranked and the items with the highest positive values were selected for the final instrument. The rank order of the twelve items in each of the five scales is shown in Appendix II.

Sixty-five items in the pilot study instrument were statements believed to be characteristic of organizations on one side of the bureaucratic continuum and the other sixty-five were written for the opposite side of the continuum. Thirty-seven of the sixty items with the highest index of discrimination were statements descriptive of an organization with flexible administrative characteristics and a low degree of bureaucratization. Some of the statements about rigid administrative characteristics may have been interpreted as being negative or critical toward the administration and, consequently, were not acceptable to the respondents in the pilot study. Since the highest positive index values were the criteria for item selection, the final instrument had a slightly higher proportion of statements (62 percent) representative of flexible administrative characteristics than of rigid administrative characteristics.

It was desirable to isolate each item representing a particular bureaucratic characteristic or scale. The statements were placed in the final instrument in blocks of five so that statement number "1" came from scale "A," "2" from scale "B," "3" from scale "C," "4" from scale "D," and "5" from scale "E." The block method was repeated for the sixty statements; however, an attempt was also made to break up the pattern of the responses by randomly dispersing the statements, representative of flexible and rigid administrative characteristics, throughout the instrument. The ordering and spacing of the statements according to their scales did not interfere with the randomization of positive and negative statements because there were twelve possible selections within each scale.

Individual Information

Six questions were added to the final instrument to obtain information about the respondents which could conceivably have a relationship to the way that they perceived the administrative characteristics in their particular extension service organization. The questions were multiple-choice type, and choices were designed so that all possible responses presumably could be placed in one of the categories provided. The final questionnaire with items pertaining to the individual respondent can be seen in Appendix I. The six questions were as follows:

1. How many years have you worked with this organization?
2. What is the nature of your work in Cooperative Extension Services?
3. How long have you had your present assignment?
4. With which unit (s) are you assigned?
5. Who is responsible for your performance rating as it relates to salary and promotion?
6. How many supervisory and administrative positions are there between you and the top administrator responsible for your state Extension Service Organization?

It seemed to the investigator that the average years of service in the Extension organization might have a relationship to the innovativeness of the organization; it was expected that the greater the average years of service, the less innovative in program the organization would be. It was also considered that a change in assignment might produce results similar to a high rate of turnover among staff members.

The question on the nature of the work in Cooperative Extension Service was included for the purposes of determining if there might be significant differences in the way staff members in the various positions perceived the administrative characteristics of the organization in relation to innovativeness in program. The question on performance ratings was designed to determine if there might be a difference in the perceptions of administrative characteristics between those who were rated only by extension superiors and those responsible to others as well. This expected difference in perceptions might show functional relationships to innovation in program.

It was also felt that as the number of administrative or supervisory positions (hierarchical levels) increased between the respondent and the top administrator, the innovativeness in program would decrease because of the greater number of people involved in approving innovative programs.

In addition to the six questions which have been presented, information on the size of the organization was needed, but it was felt that there was a more appropriate means of obtaining this information than through the use of a questionnaire which would be sent to more than one person in each of the organizations being studied. Several approaches for determining the size of the organizations were considered, and it was decided that, since the scope of this study was limited to the administrators, supervisors and personnel on the state staff with either direct or indirect responsibilities for the program, the criteria for determining the size of the organizations would be the number of personnel as listed in the *1966-67 Agricultural Handbook*,[1] which identifies professional extension service workers in cooperating state institutions. Both full-time and part-time extension service workers were counted as contributing equally to the size of the organization.

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[1] U.S. Department of Agriculture, *Professional Workers in State Agricultural Experiment Stations and Other Cooperating State Institutions*, Agricultural Handbook No. 305 (December), 1966.

The reliability of the instrument was considered to be important as well as the item discrimination.

Reliability of the Instrument

It was necessary to reduce the number of items in the final questionnaire while retaining sufficient and appropriate items to measure the important aspects of each bureaucratic characteristic. The statements or items within each scale were not designed to measure a single factor of a particular bureaucratic characteristic; therefore, a reliability measure which was dependent upon accumulative consistency of the responses may not be the appropriate test. Two approaches were used in testing the reliability of the instrument.

The Spearman Brown prophecy formula was used to obtain a measure of reliability. The intra-class correlation coefficient ($\hat{\rho}_I$) on the responses to each scale of the pilot study instrument was calculated using the following formula:

$$\hat{\rho}_I = \frac{MSB - MSW}{MSB + (n - 1)\ MSW}$$

MSB = mean square between organizations.

MSW = mean square between individuals within organizations.

n = mean number of respondents from each organization ($n = 11.2$).

The reliability coefficient $\hat{\rho}$ was calculated as follows:

$$\hat{\rho} = \frac{n\hat{\rho}_I}{1 + (n - 1)\ \hat{\rho}_I}$$

The reliability coefficient was first calculated for the data obtained from the pilot study instrument and is given in Table 12. Scale B, division of labor, provided the lowest reliability coefficient of the five scales, .68. The other four scales had a reliability coefficient of .88 or above which seemed to the investigator to be evidence that the statements in general were capable of producing reliable measures of the characteristics being studied.

TABLE 12.--Intra-class Reliability Coefficients for Each Scale of the Pilot Study Instrument

Scale	Reliability Coefficient
A- Hierarchy of Authority	.88
B- Division of Labor	.68
C- Rules and Procedures	.88
D- Rewards	.88
E- Interpersonal Relations	.97

It seemed to the investigator that since the number of items in the final instrument was less than half the number used in the pilot study instrument and since all responses to the final instrument were by questionnaire rather than personal contacts, a test of reliability was needed. A test-retest measure of reliability involving the profile or organizational scores rather than individual scores was considered to be the most appropriate test of reliability, but it would have necessitated mailing a second copy of the questionnaire to a large number of the respondents in most of the organizations being studied. It was decided that other methods would provide adequate measures of reliability and would make it possible to complete the study within reasonable cost and time limitations. The intra-class reliability coefficients were obtained from the data provided by the respondents to the organizational inventory.

The same analysis procedure was used to obtain a measure of the reliability of the final instrument, the organizational inventory, as was used with the pilot study instrument. As was previously presented the organizational inventory contained a total of 60 statements, whereas the pilot study instrument contained 130 statements. Reliability coefficients for the final instrument are given in Table 13.

TABLE 13.--Intra-class Reliability Coefficients for Each Scale of the Final Instrument, the Organizational Inventory (n = 45)

Scale	Reliability Coefficient
A- Hierarchy of Authority	.50
B- Division of Labor	.41
C- Rules and Procedures	.62
D- Rewards	.45
E- Interpersonal Relations	.73

The intra-class reliability coefficients for the final instrument were much lower in value for each scale (see Table 13) than were those for the pilot study instrument. It should be noted that the lowest and highest reliability values belong to the same scales on the two different instruments.

There are several reasons which may account for part or all of the difference between the reliability coefficients of the two instruments. A variance between the pilot study organizations greater than the variance between the organizations of the final study would tend to diminish the significance of the variance within organizations in calculating $\hat{\rho}_I$ and thus, produce higher reliability coefficients for the scales of the pilot study instrument than those in the final instrument. In the selection of items for the final instrument, which was based upon the index of discrimination, it is possible that more reliable responses were obtained from those items with lower values on the index of discrimination; therefore, a reduction in the number of items in the final instrument over that contained in the pilot study instrument could reduce the reliability. Most of the respondents to the pilot study were met personally by the investigator while the final instrument responses were obtained by mail. It is possible that more careful attention is given to a problem where the parties concerned have personal interaction. Any of the three reasons mentioned could be a factor contributing to the difference in the reliability coefficients of the two instruments.

Reliability measures were also obtained on the final instrument through the test-retest approach. The final instrument was administered two separate times to thirty-six state staff members of a Cooperative Extension Service organization with a one-month interval between tests. The results of this test are given in Table 14.

TABLE 14.--Test-retest Reliability Coefficients for Each Scale of the Final Instrument (N = 36)

Scale	Reliability Coefficient
A- Hierarchy of Authority	.74
B- Division of Labor	.68
C- Rules and Procedures	.71
D- Rewards	.82
E- Interpersonal Relations	.77

The reliability coefficients on the final instrument which were obtained by the test-retest method were higher than those obtained by the intra-class approach. Scale A, division of labor, produced the lowest score of .68 while scale D, rewards, produced the highest score, .82.

The criteria for measurement on the two tests of reliability are different. These test-retest coefficients are measures of reliability based on individual responses, while the intra-class reliability coefficients are dependent upon the compatibility of items within scales; however, the items within the scales were designed to measure more than one factor within a bureaucratic characteristic, and the responses to these various factors may be reliable without maintaining a homogenous pattern. Intra-class reliability might also be adversely affected if the indices were not independent. It is therefore possible that differences in the pattern of response contributed to lower intra-class reliability coefficients than test-retest reliability coefficients. While the measures of reliability utilizing the intra-class approach were not as high on some of the scales as would be desirable for a standardized instrument, the investigator concluded that the values would be acceptable for this research.

Validity

The problem of establishing validity was approached in two different ways. The first method, called "face validity," was a matter of determining if the items in each scale appeared to be logically derived from the definitions of the characteristics being measured. While operational definitions of the characteristics may vary, it was felt by the investigator that only the definitions stated for this study need be considered in establishing the validity of the instrument. After consideration by the investigator and two other individuals--Peter M. Blau and Selwin W. Becker, who have published works in professional journals and books on the concepts of bureaucracy--the conclusion was reached that the statements in each scale are derived from the definition and discussion on the respective characteristics of bureaucracy and that an acceptable degree of face validity is present in the instrument.

The second approach used in the establishment of validity was through the use of known groups which were believed to possess external indicators of the characteristics being measured. These external indicators must be in agreement with the scores derived on the instrument scales if adequate estimates of validity are to be established. The ten organizations selected for the pilot study were believed to be at opposite ends of the bureaucratic continuum. Staff members of the organizations who responded to the instrument were interviewed in an attempt to determine whether or not the instrument would accurately reveal their perceptions of administrative characteristics of the organizations. It was determined that the level of agreement between the interviews and the instrument scores was relatively high in-so-far as the investigator was able to obtain an accurate account of the perceptions of bureaucratic characteristics through observations, interviews, and instrument scores. Comparisons of results of the interviews and the instrument scores have been presented previously in this chapter.

The data obtained from selected groups together with the test of the face validity of each statement constitute the validity checks for the five scales of the instrument.

Interdependence of Scales

The problem of interdependence between scales is inherent in any effort to single out the components of a global characteristic. Although the factors being measured in each organization may vary in their magnitude or dimensional polarity, they remain a part of the same system conceptually and are not readily separable. An attempt was made to select and place statements in the scales for which they were particularly relevant and to avoid statements which might be equally applicable to more than one scale. Correlation coefficients were calculated between the five bureaucratic characteristics of the pilot study instrument to obtain a measure of the relative interdependence of the scales, and these values are reported in Table 15.

TABLE 15.--Correlation Coefficients Between Five Bureaucratic Characteristics Measured by the Pilot Study Instrument (N = 112)*

Scale	Variable Name	A	B	C	D	E
A-	Hierarchy of Authority	1.00				
B-	Division of Labor	.54	1.00			
C-	Rules and Procedures	.59	.40	1.00		
D-	Rewards	.63	.42	.66	1.00	
E-	Interpersonal Relationships	.46	.41	.41	.51	1.00

*N was based upon individual mean scores.

The correlations between the five bureaucratic characteristics varied from a high value of .66 between "rewards" and "rules and procedures" to a low value of .41 between "interpersonal relationships" and both "division of labor" and "rules and procedures." It can be readily determined from the correlations that the five bureaucratic characteristics are not wholly independent variables. On the basis of the pilot study data the conclusion may be reached that the degree of bureaucratization of organizations is likely to vary in the same direction on all five characteristics and that these characteristics are somewhat interdependent.

Summary

It was necessary to test 130 statements concerning bureaucratic organizations to obtain items which could be generally understood, which would elicit reliable and valid responses and which would discriminate between organizations possessing administrative characteristics on the high end from those on the low end of the bureaucratic continuum. The rationale for the selection of the pilot study organizations, a brief description of the organizations, and the results of interviews with staff members have been covered in this chapter. The pilot study, which involved professional staff members of ten organizations, provided data to aid in the design of the final instrument and in the selection of items for that instrument. Interviews with staff members of these organizations contributed to the validation of the scales and provided information which would be helpful in conducting the final study. The reliability of the instrument was determined to be satisfactory by two methods, intra-class correlations and test-retest measures. A presence of interdependence between the five scales was not completely resolved due to the problem of separating or isolating the dimensions of the concept of bureaucracy.

The objective of the pilot study was to develop an instrument which could be used in adult education organizations to obtain a measure of organizational participants' perceptions of the bureaucratic characteristics. After instrument construction it was possible to start to obtain information on the dependent and independent variables. In the following chapter the procedures will be presented for obtaining a ranking of the states on innovativeness in program development and for obtaining data on the bureaucratization of selected adult education organizations.

CHAPTER IV

OBTAINING THE DATA ON THE DEPENDENT AND INDEPENDENT VARIABLES

A rating procedure was developed to make it possible to obtain information which could be used in ranking the states. Letters were sent to prominent leaders in the extension service organizations, both state and national, requesting their specific suggestions for potentially qualified raters.

Ratings were obtained from three sources and were combined through the use of statistical procedures to provide a mean score for each state which could be used to rank the states in the order of their rated innovativeness in program development. The values obtained from the ranking of the means were used to represent the dependent variable for analysis purposes. The rank order of the states will not be revealed in reporting the results of this research because of a promise of confidentiality made by the investigator to the cooperating raters.

Data for the independent variables were obtained through the use of the questionnaire, the development of which was described in Chapter III. It was felt to be necessary to obtain permission from state Cooperative Extension Service directors before mailing questionnaires to members of their organizations. After obtaining the state directors' approval, a sample was randomly selected from state extension service personnel lists, and the questionnaire was mailed out to this sample with an enclosure letter.

Letters which were used in corresponding with the respondents to the questionnaire, to state directors, and to others can be seen in Appendix III. Three weeks after the questionnaire was mailed a followup letter was sent out and eight weeks from the time the questionnaire was mailed the returns were scored and prepared for analysis.

Ranking of States on Innovativeness in Program Development: The Dependent Variable

It was not considered by the investigator to be appropriate or possible to have the raters of innovativeness in program development read an extensive definition on the subject of the ratings; however, having raters base their judgments on common criteria was felt to be essential. It was also important that the ratings be based upon the definition as given and not on some other factors which might make one organization distinctive from another. A three-page sheet was prepared for the raters and included a brief explanation of the investigator's ultimate objective, step-by-step instructions to the raters, a definition of the innovative organization, indices of innovation in organizations and criteria for the ratings. The criteria for making the ratings included among other things some observations on what should not be considered as innovations.

Criteria to be Considered in Making the Ratings

Innovation in program development should *not* be equated with favorable publicity. Public relations which is skillfully handled may create a deceptive impression of the functions in an organization. The popularity of an administrator or his public acclaim might be confused with innovativeness of program in organizations. Change in an organization may lack direction or purpose and be an objective in itself. Innovation in program may be judged good or bad and yet be innovation. An organization may also be innovative in ways which are not program innovations. These are factors which must be considered when making judgments about innovativeness in program development.

The demonstrated level of program innovativeness during the last "five years" is the period to be considered in rating Cooperative Extension Service organizations. Five years allows sufficient time for the development and fruition of innovations, and is short enough in duration for the majority of raters to be familiar with the program activities of the organization being rated. A longer period of time would also increase the probability of changes in the administration, a variable which is thought to increase innovation in an organization, expecially when a new administrator comes from a former position outside of the organization.

Method Used in Making Ratings

It was felt to be undesirable to have raters rank the states from lowest to highest on their innovativeness in program development, so a system was devised which would permit raters to group the states into one of five categories in relation to the raters' judgment on their relative innovativeness in program development. The raters were given an envelope containing fifty IBM cards with the names of the states printed on the cards. Six cards of a different color were provided as header cards to identify the possible choices in making the rating.

The rating scale was a continuum (1, 2, 3, 4, 5) representing increasing degrees of innovativeness in program development. A "0" category was reserved for those states which participants were unable to rate due to inadequate information on program innovations. Raters were asked to place an equal number of states in each of the five rating categories where possible. See Appendix I for the instructions provided for the raters.

The scale values of "1" through "5" were used as the rating scores, and "0" was the score for the states which were not rated. Most of the raters felt able to rate at least half of the states and many of them rated 90 percent.

The card sorting method was used because it permitted the raters to make adjustments easily in the relative positions of the states as the rating process proceeded. The number of states in each rating category could be equalized by moving the extreme cases in the larger categories either up or down the rating scale by one point. The use of machine-scored cards also simplified the recording and summarizing of the results.

Selection of Raters

Letters were written to two directors of the Cooperative Extension Service in each of four geographic areas of the United States asking them to recommend five people whom they felt would be well informed on extension programs in the states and best qualified to do the ratings. The recommendations included directors, associate and assistant directors of state extension serivces, Federal Extension Service administrators and staff members, members of extension program study committees, and the chairmen of the extension Committee on Organization and Policy, both past and present.

After considering the recommendations the investigator decided to obtain ratings from three sources: first, a large group of state extension administrators; second, a panel of judges composed of the persons who were recommended more frequently as raters; and third, administrators and staff members of the Federal Extension Service.

A meeting which was called for extension administrators provided an unexpected opportunity to meet personally with potential raters from thirty-seven states to present the rating problem, to benefit from their observations concerning the rating exercise, and to obtain ratings from a large group of extension policy-makers who were responsible primarily for the programs of their organizations. The selection of the panel of judges was based mainly upon the recommendations provided by the extension directors in four different geographic areas of the United States. The investigator expected to strengthen his claim for validity of the ratings by also obtaining rating data from a third source outside of the state organizations--the Federal Extension Service.

It was anticipated that the use of more than a single source for obtaining the ratings would provide information on the level of agreement between raters with differing backgrounds or experiences. As was mentioned earlier concerning the development of the instrument for measuring bureaucratic dimensions, an individual's conceptual scheme or reference point will influence his perceptions of a situation. The investigator was interested in testing the data obtained from the state extension service raters against the judgment of the best qualified raters at a national level, raters who might consider the state programs from a different perspective. As will now be demonstrated, the ratings of the panel of judges and those of the Federal Extension Service staff members were quite similar to the ratings of state administrators and were not necessary except to provide some assurance to the investigator that the initial ratings were based upon the criteria which were established for innovation in program development.

Rating by State Administrators

The National Agricultural Extension Center at the University of Wisconsin organized and conducted the Ninth National Administrative Seminar for second echelon administrators of Cooperative Extension Service during May, 1967. Dan Pfannstiel, Visiting Professor at the Extension Center, kindly consented to permit the investigator to attend the Seminar and to solicit the cooperation of participants in responding to a rating exercise involving the state extension programs. The Wisconsin Center Staff and the Seminar program planning committee were most helpful during the week the seminar was being held. The group of seminar participants from thirty-seven states consisted of second level administrators most of whom had primary responsibilities for administering state extension programs. The investigator was given an opportunity during the workshop to present the problem to participants and solicit their assistance with the rating exercise. The rating material was passed out to fifty-four of the workshop participants and forty-three returned ratings which were sufficiently complete to be used in the analysis. The raters were not identified with their responses, except for a few cases where raters voluntarily signed their names.

Mean scores for each state were used to develop a rank order of the states; the states were then divided into five groups and placed in alphabetical order within groups. This arrangement of the states was used in subsequent rating exercises. The inter-rater reliability coefficient on the forty-three returns from state administrators using the mean square estimate was .96, indicating a high level of agreement on the ratings. The formula which follows was used for obtaining the mean square estimate of reliability and is similar to the Spearman Brown prophecy formula used to measure intra-class reliability in the analysis of the pilot study data.

$$\hat{\rho} = \frac{MS_s - MS_e}{MS_s}$$

MS_s = 19.719 = mean square for states.

MS_e = 0.790 = mean square for error.

$\hat{\rho}$ = .96 = mean square estimate of reliability.

See Appendix II (Table 34) for analysis of variance.

The next step in obtaining a ranking of the states on innovativeness in program development was to obtain an evaluation of the proposed grouping of the states from a panel of judges. The data which were subsequently obtained from the panel of judges were considered to be a necessary test to sustain the investigator's confidence in the first rating exercise.

Rating by Panel of Judges

Three men who were most frequently recommended by state extension directors and who represented different positions in the extension service organization were selected for the panel. One was an Assistant Administrator of the Federal Extension Service, one was the Chairman of the Extension Committee on Organization and Policy (ECOP), and the third was a former Chairman of ECOP and is the top administrator of one of the state extension organizations placed by raters in the most innovative group. The panel was asked to recommend changes in the five groups of states where a state was considered to be in the wrong group relative to their innovativeness in program development. The placings of a total of fourteen states were changed by one or more of the three judges. Two states were moved up two groups, three states were moved down two groups and the other eleven states were shifted to an adjacent group. A second test of the ratings was made with staff members of the Federal Extension Service.

Rating by the Federal Extension Service Staff

Eight members of the Federal Extension Service staff were interviewed and ratings were obtained from seven of the interviewees. Five of the ratings came from directors and staff members of subject matter projects, and two of the five project ratings were a composite rating utilizing the judgment of a number of personnel assigned to each project. One rater was an assistant administrator and the other had been the director in research and training prior to assuming his present assignment. Five of the seven ratings were made by suggesting changes in the proposed grouping of states; the two composite ratings were made independently without the use of the proposed groupings.

Some differences were noted between the ratings made by the various project staff members. Representatives of project areas were asked to rate the states on the basis of their innovativeness in program development for only the particular project area they represented; the other raters were instructed to consider the total program of the states. A state might be judged highly innovative in agricultural production programs and low on innovativeness in community development programs. While these discrepancies were not extensive, a few differences were noted. Raters representing project areas who proposed changes in the grouping of states justified their proposed changes by stating that for the project they were rating, a particular state should be in a different group. Their reasoning provided evidence that they were concerned with only certain aspects of a program in evaluating the ratings. These few representatives of project areas appear to be somewhat less objective in their attempts at rating innovativeness in programs.

Final Ratings and Results

It was necessary to devise a means of comparing the ratings of the panel of judges with those of the Federal Extension Service and finally with those of the state extension administrators. The investigator decided to combine the ratings made by panel of judges and the federal staff into one grouping of ten raters. Mean scores were calculated for each state along with a mean square estimate of reliability. The reliability coefficients was .99 for the ten raters combined, indicating a high level of agreement on the over-all rating. See Appendix II (Table 35) for analysis of variance.

The states were ranked on the basis of the mean score for each state, and it was noted that there were some minor differences between the order of the rankings which were based on the two groupings of raters. A grand mean score for each state was derived from the mean scores of the forty-three state raters, one grouping, and the ten ratings of the panel of judges and the FES staff, the other grouping, combined. The grand means were used as the dependent variable for hypotheses testing.

Validity of Ratings

The instructions to the raters were quite specific on the criteria to be used in making the ratings, and the definition of innovativeness in program development was as thorough as the investigator was able to make it, so if the raters followed the criteria provided, the results of the ratings should be valid; however, there is always a question of how well the instructions were interpreted and followed. The two groupings of raters which were used in the analysis of the ratings would be expected to view the state programs from different perspectives; one group consisting mainly of second echelon administrators of state programs and the other being composed of national extension leaders and federal personnel associated with programs. If the two groups were following the same definition and criteria in making the ratings, one would expect the correlation between the two groups of raters to be high. A Pearson r correlation test was made using the two groups of raters, and after correcting for attenuation the correlation coefficient r was .95, indicating a desirable level of agreement. Correcting for attenuation was accomplished through use of the following formula:

$$r = \frac{r_{1,2}}{\sqrt{R_1 R_2}}$$

$r_{1,2}$ = .927 = correlation coefficient before correction.

R_1 = .9599 = reliability coefficient for group 1.

R_2 = .9970 = reliability coefficient for group 2.

r = .95 = corrected correlation coefficient.

See Appendix II (Tables 34 and 35) for analysis of variance.

Another check on the validity of the ratings was made by reviewing and comparing the annual reports submitted to the FES by fourteen states; seven of which were on the high end of the rating scale and seven on the low end. The investigator soon recognized that reports are quite dependent upon the ability of the writer and the selection of data to be reported. A poor writer might not reflect the true level of innovativeness in a program while a good writer might be able to make a stereotyped program appear to be highly responsive to the anticipated needs of a changing environment.

The orientation of the written reports seemed to provide evidence on the degree of program innovativeness in the organizations. Some reports could be classified as future-oriented while others tended to be a comparison of present and past achievements. Some organizations rated as most innovative recognized traditional programming procedures as a problem, according to written reports, and have made changes in the organizational structure in an attempt to overcome this problem. A few of the organizations judged as being highly innovative in program development placed major emphasis on new program developments in their written report, and one of the organizations elaborated on those phases of their program which were actually initiated in that state as innovations in extension work.

Another difference between the states with more and less innovative programs which was readily apparent was the rate of adoption of new practices and technology in their program activities. The states judged as less innovative in programs were still making preparations for things which had been in use for several years in some of the states judged to be most innovative. The use of educational television, tele-conferences, area specialists, multi-county offices, combined Cooperative and general extension organizations, new sources of revenue and services to new clientele are but a few of the practices which are well established in some of the states judged to be most innovative but are still being considered by others judged to be least innovative.

The most obvious difference between the reports from states judged high and those judged low on innovativeness was revealed in comments regarding number of personnel and total budget. The organizations rated as less innovative made reference to continuing problems from previous years with staff vacancies and tight or inadequate budgets; their reports seemed to indicate that the ability to maintain existing programs even without attempting to any extent to project future trends and problems was a significant accomplishment in itself.

The review of annual reports may strengthen the claim for the validity of the ratings, but it is recognized that since only a selected number of the reports could be examined in the time allotted and not all reports contributed information which could be used in making judgments about the program innovativeness of the reporting organizations, the review of annual reports is only one factor along with others upon which the establishment of validity stands. The qualified observations of judges and the high level of agreement between large numbers of raters would seem to indicate that raters were basing their judgments on a common interpretation of innovation in program development. After the ranking of the state Cooperative Extension Services on their innovativeness in program development was established, it was necessary to collect data concerning the independent variables of the study.

Measuring Perceptions of Bureaucratization in Adult Education Organizations: The Independent Variables

The investigator felt that it would be desirable to select adult education organizations which had some factors in common. Differences in the goals, or purposes, in the program emphasis, in the training and background of staff members, in the financial support, and in the longevity of the various organizations could possibly introduce elements extraneous to the objectives of the study. Since the focus of the study was on organizations rather than individuals, it was necessary to work with a sufficient number of organizational units to make statistical analysis feasible. The kind of information which was needed concerning the organizations could only be obtained from the organizational membership, so random sampling was used to keep the total number of questionnaires to be mailed within reasonable limits. The response to the questionnaire was outstanding, and this success may be attributable in part to the procedures used in data collection. Details on the data collection procedures will follow.

Organizations and Personnel Involved in the Study

An attempt was made to include all state Cooperative Extension Service Organizations in the study so that the statistical analyses could be based upon the total population of fifty states. Directors of forty-six state organizations gave favorable replies to the investigator's letter, but the total staff in one of the forty-six states was so small that it seemed to be a special situation which was not comparable with the other forty-five state organizations. Clearance was not obtained from four states for varied reasons, and those four were excluded from the study. As it was subsequently determined, the exclusion of those states did not distort the research results because they were found to be quite evenly distributed across the scale in relation to the ranking for innovativeness in program. The letter to the directors can be seen in Appendix III.

In writing the letter to the state directors, the investigator attempted to provide adequate information so that the directors would have some basis for making a favorable decision on the request. They were told that about 20 minutes time would be required of those who responded to the questionnaire, that a response from fifteen people in each state would provide adequate information for the study, and that the personnel whose assistance was needed were the supervisors, project leaders and subject matter specialists in their organizations. Personnel assigned within the counties were excluded from the sample because staff members serving multiple units of the organization are in a better position to initiate change in the whole organization; because state staff members are more closely associated with the university research, library facilities, and classroom teaching staff, the source of knowledge and other resources needed in problem solving; and because the pilot study indicated that the location of the staff members, in relation to the administrative and supervisory hierarchy and in relation to their opportunities for social interaction with administrators, would influence the nature of their response to the questionnaire. The next problems to be resolved were those of identifying the members of the population and selecting a random sample.

Sampling Within Organizations

Most of the directors provided a mailing list of their organizational personnel, but in a few cases where the list was not provided or where the list was incomplete, the *1966-67 Agriculture Handbook*[1] was used. The handbook identifies professional workers in cooperating state institutions and the nature of their assignments. Persons holding positions as supervisors, program leaders, and subject matter specialists were selected from the state rosters. Supervisors were not designated on the rosters in all cases so it was necessary to determine whether or not some staff members had supervisory responsibilities from their job titles. Two populations were identified for each state, supervisors in one and program leaders and subject matter specialists in the other. Personnel working non-supervisory positions in information and publication, radio and television, civil defense and other areas which might not be covered by academic departments were included with program leaders and subject matter specialists in the population from which the sample was taken.

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[1] U.S. Department of Agriculture, *loc. cit.*

Some states had well over one hundred staff members to be included in the population, and the number of staff members in others was only slightly greater than the sample to be selected. The supervisors in each state were numbered as a separate sampling group from the rest of the population selected because only two supervisors were to be included in the sample of fifteen taken from each state.

It was observed during the pilot study, which was conducted to develop the instrument for measuring perceived bureaucratic characteristics in organizations, that there were considerable differences in the way staff members perceived the administrative characteristics of their employing organization. Supervisors, department heads, and administrators were generally inclined to perceive their organization as being less bureaucratized than were personnel whose positions were lower in the organizational hierarchy. For this reason a decision was made to control proportionately the number of supervisors included in the sample and to add an item to the questionnaire which would identify the respondent according to his assignment as a supervisor, program leader, subject matter specialist or otherwise.

Four supervisors and eighteen other staff members were selected randomly through the use of a random numbers table making a total of twenty-two from each state. Each person was numbered in the order of his random selection. Only two supervisors and thirteen non-supervisory staff members were to be sent questionnaires, but the additional seven personnel were drawn as substitutes for someone who might not be available to respond to the questionnaire because of prolonged illness, extended leave, or recent separation from the organization. This procedure, as will be shown later, contributed toward the attainment of a higher percentage of returns on the questionnaire than would have been possible if those who were not available to respond had been overlooked. With reasonable assurance of being able to obtain adequate representation from each state, the investigator was able to minimize the total number of questionnaire recipients.

Mailing of Questionnaire

The questionnaire was mailed to 15 individuals in each of 45 states for a total of 675. An enclosure letter was sent with the questionnaire to explain the reason for the request, to solicit assistance, and to inform the recipients that their administrators had consented to cooperate with the investigator.

At the time the questionnaire was mailed out, a letter was sent to each state director reminding him of the earlier request and listing the fifteen people of his organization who were to receive the questionnaire; some of the directors had requested that they be sent such a list. The directors were asked to inform the investigator concerning any of those people on the mailing list who would not be available for responding to the instrument. Nearly all of the directors returned the stamped, self-addressed postcard, which had been enclosed with their letter, either indicating that the mailing list was satisfactory or listing those who could not respond. Substitutes were selected in the order that they had been randomly drawn, and questionnaires were mailed to them. Seven percent of the questionnaires returned were received from respondents who were substitutes for persons included in the original sample of fifteen but who were *not* available to complete the questionnaire.

Another procedure which was used also helped to increase the percentage of return on the questionnaire. A follow-up letter was sent to those who had not returned the questionnaire at the end of a three-week period, and a stamped self-addressed postcard was enclosed with the letter on which there were three alternative responses as follows:

> Send me another copy of the questionnaire.
>
> The questionnaire arrived while I was out of the office.
> I will complete it as soon as possible.
>
> The questionnaire has been mailed.

A place for a signature and state name was also provided on the card. Approximately twenty-five copies of the questionnaire were mailed to individuals who requested a second copy, and most of them were completed and returned. The postcard also served as a means of obtaining a commitment from people who might not have returned the questionnaire otherwise (see Appendix III).

Collection and Organization of Data

Eight weeks were allowed for the return of the questionnaires because they were mailed out during a period when many people were on vacations or working on seasonal projects away from their offices. During this eight-week period, as the questionnaires were returned they were identified by state, checked off on the mailing list, numerically scored, punched on data processing cards, and checked for accuracy. The mailing list was kept current in relation to the returns, and by doing so it was possible to address envelopes and mail follow-up letters to only those extension staff members who had failed to respond by the date upon which the second letter was mailed.

Usable responses were received from 92 percent of those people presumed to be available to make a response. An additional 3 percent were either returned with incomplete data, answered in such a way that the respondent's perceptions could not be interpreted accurately, or they arrived too late to be included in the final analysis. On the basis of the percentage of usable returns, it was concluded that the instructions on the instrument communicated the desired information.

Summary

An ordinal ranking of the states in relation to their innovativeness in program development was achieved by first preparing a comprehensive definition of the variable to be rated; second, preparing instructions for raters which could easily be understood and followed; third, determining who were best qualified to do the ratings and obtaining their cooperation; and fourth, devising a means of combining the raters' contributions into a composite rank order which could be justified as a valid measure of innovativeness in program development. The inter-rater reliability coefficients were high enough to indicate substantial agreement between raters. A review of state annual reports provided additional evidence on the validity of the ratings. It is felt that further study of the innovativeness of state programs would result in no more than slight changes in the rank ordering of the states and that the values derived through the previously described procedures can be used with confidence as the dependent variable of the study.

A questionnaire was mailed to a random sample of two supervisors and thirteen non-supervisory staff members in each of forty-five states. One follow-up letter was sent out three weeks after the questionnaires had been mailed, and of the 675 people to whom questionnaires were mailed, 95 per cent responded. Of the returns, 92 per cent were usable in the final analysis.

The next phase of the study was the analysis of the data. Data were punched on machine cards and analyzed on the computer. The findings from the analysis will be reported in the following chapter together with an interpretation of the results.

CHAPTER V

ANALYSES OF THE DATA

Thus far in defining and discussing the variables relative to this research, the use of numerical values for the variables has not been necessary. In this chapter measures of the variables will be represented numerically, and the variables will be identified in an abbreviated form to simplify reporting the analyses of the data.

It was necessary to select a statistical technique for the analyses of the data which would be appropriate for the problem being investigated. Correlation techniques were used to study the relationships between the independent variables, and regression analysis was applied in testing the hypothesized relationships. In addition to the variables about which hypotheses were presented, five variables were added to the regression equation which appeared to the investigator to have important relationships to the problem being investigated.

As the analyses progressed and subsequent information was obtained, it appeared to the investigator that by combining certain variables, which seemed to be logically related and which were quite highly correlated statistically, a higher level of statistical significance could be achieved. This approach proved to be worthwhile in analyzing the relationships between four of the variables.

An interpretation of the findings will be given in this chapter, but the investigator's conclusions concerning the results will be reported in Chapter VI after all of the statistical analyses have been presented.

Identification of Variables in the Analyses

The first problem encountered in the analyses of the data was that of deciding upon a statistical procedure which would be appropriate for the variables being studied and which would make it possible to gain the most reliable information concerning relationships between variables. There are eleven variables to be considered in the analyses: one dependent variable, five independent variables, and five covariates about which there was considerable evidence to indicate an association with innovation. The one dependent variable is innovation in program development and will be cited in the analyses as "innovation." The independent variables are the five administrative characteristics which were generated from the bureaucratic model of organizational administration and are listed below along with an abbreviated name which will be used to identify them in the analyses and discussion which follows. The independent variables are:

1. Hierarchy of authority and provisions for decision making (to be called "hierarchy").
2. Division of labor or partitioning of work tasks (to be called "division").
3. Rules and procedures for governing behavior (to be called "rules").
4. Differential rewards of office and motivating factors (to be called "rewards").
5. Impersonality and the level of interpersonal relations (to be called "relations").

The grand mean score which was calculated from the various ratings of the organizations was used as the numerical value for the dependent variable, innovativeness. The grand mean score for each organization on each of the five scales of the questionnaire provided the numerical values for the five independent variables. The focus of the study is on differences in organizations as units, not on differences among individual members within organizations.

The covariates which seemed to be pertinent to the problem and about which data were collected and used in the analyses are described as follows:

1. The total operating budget for each state extension service organization in dollars (to be called "budget").[1]
2. The total number of professional staff members in the Cooperative Extension organization (to be called "personnel").[2]
3. The number of years of service in the Cooperative Extension organization, as reported by the randomly selected respondents from each state (to be called "service").[3]
4. The number of years tenure in the current assignment for the randomly selected respondents in each state (to be called "tenure").[4]
5. The number of supervisory and administrative positions between the respondents in each organization and the top administrator of the extension organization (to be called "levels").[5]

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[1] The budget figures were taken from a table provided by the Federal Extension Service and covers all reported sources of funds for the fiscal year ending June 30, 1967. The funds include appropriations from federal, state, and county sources and money derived from non-tax sources as well.

[2] The total number of professional staff members was taken from a table prepared by the Federal Extension Service on October 10, 1966. The list covers personnel with full or part-time appointments in the Cooperative Extension Service program. Included in the total staff figures are directors, associate or assistant directors, management personnel, specialists, supervisors, 4-H club staff and county agents working in both adult and youth programs.

[3] The mean number of years of service was used as the numerical value for the covariate, "service."

[4] The mean number of years of service in the current assignment for responding personnel in each state organization was used as the numerical value for the covariate, "tenure."

[5] The mean was calculated from the number of levels reported by respondents in each organization and was used as the value for the covariate, "levels."

The numerical values calculated for each variable and used in the analyses of the data are presented in tabular form in Appendix II. Only the results of the statistical analyses will be presented in this chapter.

Selection of Statistical Procedures

Multiple regression analysis was selected as the statistical technique to be used in studying the possible relationships between the variables of the study. In selecting regression rather than just correlation techniques for the analyses of the data, a decision had to be made on whether innovation was dependent upon and subsequent to the independent variables or whether innovation, the dependent variable, might bring about adjustments in the independent variables.

It is conceivable, for example, that "rules" could be enacted as a means of curbing "innovation," but rules are generally made for the organizational membership while innovation is initiated by individuals. If rules were made to curb the innovation of an individual, then the rules would be based mainly and specifically on the basis of that individual's behavior rather than as a result of a careful analysis of the similar tasks which many individuals may perform.

Innovation in program development appears to be a consequence of other factors. An administrator is not assured of getting innovation simply by ordering it; however, the leadership of an organization may be in a position to exercise considerable control over other characteristics such as those selected for independent variables and covariates. The administration does not appear to order innovation directly without first providing a climate or atmosphere in which innovation may be spawned. The manipulation of certain of these suggested variables may be necessary before the innovator feels free to act, or before change can be accepted and implemented. It is therefore assumed that in a relatively complex organization with a bureaucratic type of administration, innovation follows as a consequence of the presence or absence of certain structural and functional conditions which are established and controlled by the management.

Simple correlation coefficients were computed for the ten variables and innovation to determine existing relationships.

Correlation Between Independent and Dependent Variables

To obtain an understanding of the statistical relationships between the eleven variables under consideration, a large matrix of intercorrelations was computed. The scoring of the variables upon which hypotheses were based was done in such a way that a positive correlation would result if the direction of the scores as determined by the analysis was found to be in agreement with the expected relationships. The results of the correlation computations are given in Table 16.

Hierarchy of Authority and Innovation

Table 16 reveals that there is essentially no correlation between "innovation" and "hierarchy" (-.03). "Hierarchy" was the only variable to show an inverse relationship to "innovation," as the other variables are all positively correlated with "innovation."

To interpret the meaning of the absence of a correlation between the variables, hierarchy of authority and innovation in program, it is necessary to reconsider the factors inherent in "hierarchy" as a variable. The factors will vary in amount or degree along a continuum and are based upon the perceptions of respondents. They are as follows: the decision-

TABLE 16.--Simple Correlation Matrix of One Dependent Variable, Five Independent Variables and Five Covariates.

Variable Name and Number	1 Innovation	2 Hierarchy	3 Division	4 Rules	5 Rewards	6 Relations	7 Budget	8 Personnel	9 Service	10 Tenure	11 Levels
1. Innovation	1.00										
2. Hierarchy	-.03	1.00									
3. Division	.25	.32	1.00								
4. Rules	.21	.32	.62	1.00							
5. Rewards	.38	.14	.72	.60	1.00						
6. Relations	.05	-.09	.61	.43	.53	1.00					
7. Budget	.68	-.19	.26	.06	.39	.18	1.00				
8. Personnel	.61	-.23	.21	.00	.33	.15	.97	1.00			
9. Service	.27	.07	.03	-.21	.14	.02	.28	.31	1.00		
10. Tenure	.22	.06	.17	-.14	.18	.12	.25	.22	.76	1.00	
11. Levels	.52	-.24	-.12	-.06	.06	-.19	.54	.55	.30	.14	1.00

A correlation coefficient greater than .29 differs significantly from 0 at the .05 probability level. A correlation coefficient greater than .38 differs significantly from 0 at the .01 probability level (N = 45).

making authority delegated by superiors, the individual initiative permitted or accepted, the need of superiors to dominate relationships with subordinates, the superior's demonstrated confidence in the subordinate's ability to make decisions, the use of channels of authority, and the subordinate's commitment or responsibility to his job. The lack of correlation between "hierarchy" and "innovation" is an indication that the above factors as measured in this research as a group are unrelated to innovation in program development.

Division of Labor and Innovation

The correlation between "division" and "innovation" was .25 (see Table 16), indicating that a limited positive relationship may exist between the variables. Factors in the division of labor which were expected to correlate positively with "innovation" in an organization characterized by a low degree of bureaucratization include such things as extensive cooperation between colleagues on interdisciplinary work activities, a type of job specialization which permits considerable interaction and communication with fellow workers and which tends to promote interest in what others are doing, and an organizational climate which tends to make employees feel that there are opportunities for personal gain when working cooperatively in group activities. The correlation between "division" and "innovation" is an indication that the above factors may contribute to innovation in program development in the organizations being studied.

Rules and Procedures and Innovation

The relationship between "rules" and "innovation" is not as strong as that between "division" and "innovation;" however, Table 16 does show a positive correlation of .21. There are several factors in "rules" which should be re-emphasized in the interpretation of the correlation between "rules" and "innovation."

In the organization which is determined to be flexible in relation to bureaucratic characteristics, written rules and specified working procedures are not perceived as being used in place of individual judgments. The administrative staff will be recognized for their attempts to promote an atmosphere in which there is little need to circumscribe employees' alternative actions on the job with a rules and procedures manual. A manual may be in existence, but it will not be considered as a deterring factor in the accomplishment of work tasks. The lower the degree of bureaucratization in an organization the more flexible the work schedule will be, and there will also be more opportunity for making adjustments in organizational rules and procedures than in the highly bureaucratized situation.

The correlation between "rules" and "innovation" is an indication that a functional relationship may exist between the factors cited above and innovativeness in program development.

Differential Rewards of Office and Innovation

Of the five independent variables from which hypotheses were developed, "rewards" correlated positively and most highly with "innovation" (.38, see Table 16). Factors in the least bureaucratized organization which are associated with "rewards" are as follows:

There is a place in this type of organization for the person who may find it necessary to differ from his colleagues occasionally. The personal interests of staff members are nurtured and exploratory activities are encouraged. The staff orientation favors the professional field rather than administrative advancement, and personnel can be recognized and achieve success in the organization without becoming administrators. Staff members are well supported in their attempts to achieve professional and educational goals, and compensation is more dependent upon the relative individual contribution in furthering the objectives of the organization than upon the number of years of service as determined through a fixed salary schedule. These factors will generally receive less emphasis in the highly bureaucratized organization than in an organization with a low degree of bureaucratization.

Based upon the correlation between "rewards" and "innovation," one would expect innovation in program development to occur more readily with a flexible bureaucratic situation. "Rewards" may prove to be one of the stronger predictors of "innovation."

Interpersonal Relations and Innovation

The correlation between "relations" and "innovation" was the lowest positive correlation of the five dimensions of bureaucracy (.05, see Table 16). Interpersonal relations appears to be a bureaucratic characteristic which has little or no relationship to innovation in program development. The least bureaucratized organization would be expected to possess the factors which follow more extensively than would the highly bureaucratized organization.

Informality is preferred by superiors in associations with subordinates on and off the job. Social interaction among staff members and between personnel at different hierarchical levels is encouraged both on and off the job. Administrators are interested in becoming acquainted with staff members' families and seem to be concerned about helping employees solve personal problems. There are few formal restrictions to specify the nature of interaction between personnel and clientele of the organization. The lack of a correlation between "relations" and "innovation" is an indication that an organization might be the least bureaucratic in terms of the above factors and still be unable to innovate in program development.

Five Additional Covariates and Innovation

Three of the five covariates correlated positively with "innovation" at a higher level than did the five independent variables previously mentioned. "Budget" and "innovation" had a positive correlation of .68, "personnel" and "innovation" .61, and "levels" and "innovation" .52. These three variables are not wholly independent as there appear to be factors in common among them. Where the major part of the budget of organizations is set aside for the employment of professional personnel, one would expect the size of the budget and the number of employees to be positively correlated. The number of supervisory and administrative positions necessary to direct organizational activities might also be expected to increase with the number of personnel, thus the common factors in "levels," "personnel" and "budget" may account for a part of their correlation with "innovation."

A positive correlation between "service" and "innovation" of .27 is given in Table 16. "Service" designates the average number of years of employment by members of a particular organization. Based upon the correlation coefficient obtained, it appears that a functional relationship might exist between the variables "service" and "innovation;" as the years of service increase, the innovativeness in program supposedly increases.

The variable "tenure" (see Table 16), correlates positively with "innovation," .22. "Tenure" represents the average number of years the employees of the organization have served in their present position. The purpose in using the variable "tenure" was to determine if relatively frequent changes in assignment might influence the level of program innovation. The positive correlation indicates that a minimal functional relationship may exist between longer tenure in assignment and increased innovation in program development, the opposite of that which was expected.

The variables "service" and "tenure" were not expected to correlate positively with "innovation." In fact, negative correlations had been anticipated.

The correlation matrix in Table 16 also provides the correlations among the independent variables and covariates.

Correlations Among Independent Variables and Covariates

The correlation matrix gives some indication of the independence or lack of independence between the ten independent variables and covariates. The two covariates, "budget" and "personnel" correlate at the .97 level, indicating that these variables are not independent. It appears that either "budget" or "personnel" would serve as an indicator of the same organizational characteristics. Since "budget" (.68) is more highly correlated with "innovation" than is "personnel" (.61), "budget" would appear to be the best predictor of innovation of the two variables.

"Levels," the number of superordinate positions in the hierarchy between the respondent and the top administrator, correlates positively with "personnel" (.55) and "budget" (.54), but this relationship might normally be expected; the larger the budget, the greater the opportunity for increasing personnel and the more personnel in the organization the greater the possibilities for additional supervisory and administrative positions.

"Tenure," the number of years in a particular assignment or position, and "service," the number of years of service in the organization correlate at .75 which may mean that a majority of the personnel in Cooperative Extension Service hold only one position in that organization during their employment. Neither "tenure" nor "service" individually appears to be an important variable in predicting "innovativeness."

"Division," one of the independent variables, is positively correlated at a relatively high level with "rewards" (.72), "relations" (.61), and "rules" (.60). "Rewards" correlates positively at the .60 level with "rules" and at the .53 level with "relations." These four variables are definitely not independent of each other but rather appear to have factors in common. "Hierarchy" does not show the same strength of relationship with the other four variables, so it would appear from examination of the correlation matrix table that there are common factors in at least two covariates and three of the independent variables which may relate to innovativeness.

The correlation matrix (see Table 16) revealed some interesting relationships between the five bureaucratic dimensions and the two indicators of organizational size. "Budget" and "personnel" were the two variables found to have the highest positive correlation to "innovation." "Budget" and "personnel" also followed similar correlation patterns in their relationship to the five bureaucratic characteristics.

"Budget" and "personnel" correlated negatively with hierarchy, -.19 and -.23, respectively. This relationship is interpreted to mean that as the size of the organizations increase, utilizing total budget and total personnel as indices of size, employees perceptions of a precise or exacting bureaucratic hierarchy tend to diminish. According to some popular bureaucratic concepts, increasing organizational size may bring about increased bureaucratization to assure control. The correlations obtained here appear to reverse this relationship and certainly do not support the aforementioned concept.

"Budget" and "personnel" correlated positively with "division," .26 and .21, respectively. These correlations are also somewhat contradictory to the theory of bureaucracy regarding specialization of work functions. According to the theory, as an organization increases in size, there is an opportunity to reduce the number of different operations performed by each individual, and thus one is able to specialize on fewer tasks and improve his ability to perform in a particular role. Increased interdisciplinary activities and greater interaction and communication between staff members appear to be most characteristic of the largest organizations.

"Budget" and "personnel" had practically *no* relationship to rules .06 and .00, respectively. One might interpret the absence of a correlation to mean that rules and procedures may be perceived in a similar way by employees of large and small organizations. The relative strictness or looseness of interpretation of rules and procedures appears to be unrelated to the two variables representing organizational size.

Both "budget" and "personnel" were positively and significantly correlated with "rewards." As the size of the organization decreases, the employees tend to perceive "rewards" as being administered according to exacting bureaucratic standards. It is possible that the larger organizations are able to provide for the maintenance and motivational needs of personnel better than are the smaller organizations with limited staff and budgets. The foregoing relationship is not in agreement with the belief that large organizations distribute rewards according to precise bureaucratic policies.

The fifth bureaucratic characteristic, "relations" was found to be correlated with "budget" and "personnel," .18 and .15, respectively. While the relationship is not high enough to be significant there is an indication that impersonalness in inter-personal relations may decrease as organizational size increases. There is no evidence to support the theory that the opposite is true.

It should be noted that the variation in correlations between the five bureaucratic characteristics and two measures of organizational size, "budget" and "personnel," did not exceed .06 on the correlation matrix (see Table 16). Since "budget" and "personnel" correlated so well (.97), one would expect these two variables to correlate with other variables at about the same value if the responses to items are consistent. The correlations were close in value and also carried the same positive or negative sign for each "budget-personnel" pair.

The next phase of the analysis will determine the relative strength of the relationships which have been revealed in the correlations.

Regression Analysis with Nine Covariates

There is an indication that functional relationships exist between the dependent variable and at least some of the bureaucratic characteristics and covariates presented in the correlation matrix. In order to determine the significance of these relationships and to find out what proportion of the variance in "innovation" is attributable to the independent variables, it will be necessary to consider the next step in the statistical analysis.

The variable "tenure" was not included in the regression analysis because "tenure" and "service" had a correlation coefficient of .76 and neither was correlated very highly with the dependent variable. It was felt that "service" which had the highest correlation with "innovation" of the two variables (.27) would adequately represent the factors involved.

The statistics for the regression analysis with nine covariates: "hierarchy," "division," "rules," "rewards," "relations," "budget," "personnel," "service," and "levels," are given in Table 17, with "innovation" as the dependent variable.

TABLE 17.--Statistics for Regression Analysis with Nine Covariates and "Innovation" as the Dependent Variable

Multiple R	Multiple R^2	F	P
0.769	0.59	5.63	0.0001

Degrees of freedom for hypothesis = 9
Degrees of freedom for error = 35

Well over one-half of the variance in the level of "innovation" of the forty-five organizations being studied is attributed to the relationship with the covariates. A multiple R^2 of .59 in Table 17 represents the proportion of variance in the dependent variable which is accounted for by the nine covariates used in the analysis. With 9 and 35 degrees of freedom at the .01 level, an F value of 2.98 is required for significance.

Having a calculated F value of 5.63 (Table 17), one may conclude that at least one or more of the covariates are functionally related to "innovation."

Step-Wise Regression to Analyze the Contribution of Each Independent Variable

Each of the covariates was added to the regression equation in the order in which they are to be presented. A chi-square test of significance was made on the covariates, and the results of the analysis are given separately for nine covariates.

Hierarchy of Authority as a Variable

According to the null hypothesis, there will be no significant difference between the mean score on the hierarchy of authority continuum for the more innovative and for the less innovative organizations. The statistics given in Table 18 support the null hypothesis and agree with the observations made from the correlation matrix earlier (see Table 16). According to the correlation matrix (r = -.03), "hierarchy" has essentially no relationship to "innovation." A positive correlation coefficient of .29 is necessary for a significant relationship at the .05 probability level.

A chi-square of 0.03 and a probability value of .86 support the decision to accept the null hypothesis of no difference.

Chi-square was used as a test of significance because the t distribution can not be applied directly when the variance of a population is being studied and because chi-square possesses an additive property which permits successive tests of significance in the regression equation.

TABLE 18.--Step-wise Regression Analysis of the Contribution of the Five Independent Variables, "Hierarchy," "Division," "Rules," "Rewards" and "Relations"

Name of Covariate Added	Order	Chi-Square	Degrees of Freedom	P
Hierarchy	1	0.03	1	0.861
Division	2	3.25	1	0.072
Rules	3	0.35	1	0.555
Rewards	4	3.08	1	0.079
Relations	5	2.25	1	0.134

Division of Labor as a Variable

The null hypothesis for the division of labor was as follows: there will be no significant difference between the mean score on the division of labor continuum for the more and for the less innovative organizations. By adding the second covariate "division" to the regression equation a chi-square of 3.25 was obtained (see Table 18) with 1 degree of freedom. A tabular chi-square of 3.84 is required at the alpha level of .05 for significance; a probability value of .07 is given in Table 18 for the rejection region. While the test of significance came short of the commonly accepted alpha level of .05, the investigator rejected the null hypothesis.

There appears to be a weak functional relationship between the division of labor variable and innovation in program development. Many of the educational problems which confront the Cooperative Extension Service require that staff members use an interdisciplinary approach in their attempts toward finding solutions. The more favorable the climate for group activity, interaction, and the sharing of individual resources, the greater the probability that the desired results will be achieved and that innovative programs will be conceived and implemented.

Where a strict division of labor and responsibility exists in Cooperative Extension Service organizations, one would expect that fewer resources would be mobilized in effecting solutions to educational problems. Innovation in program development would be lessened because the contributions of individuals in the problem-solving and innovating process would tend to come from homogeneous sources.

Rules and Procedures as a Variable

The null hypothesis for "rules" states that there will be no significant difference between the mean score on the rules and procedures continuum for the more innovative and for the less innovative organizations. When the covariate "rules" was added to the regression equation and tested for significance, the chi-square value (0.35) was found to be too low for rejection of the null hypothesis (Table 18); therefore, the null hypothesis of no difference was accepted.

The perceptions of staff members concerning the rules and procedures applied in the Cooperative Extension Service organizations seem to have an insignificant relationship to the level of innovation in program development. The rules in these organizations may be legitimated either formally or informally. Formal, specified rules may be in the form of a wirtten code or handbook, while the informal rules are the unwritten constraints which are understood and accepted by the majority of members in the organization. The enforcement of the unwritten informal rules is accomplished by the organizational membership through their acceptance or rejection of the actions of peers. If an innovator finds it necessary to violate the informal rules, one would expect that he might be ostracized by his colleagues and experience increasing difficulty in rallying their support, but apparently the problem is not of sufficient magnitude in Cooperative Extension Service organizations to produce significant empirical evidence of these theoretical relationships. Staff members may find ways to circumvent the informal organizational rules and specified operating procedures which stand in the way of implementing the necessary innovations in the educational program, or it may be that the variance between the organizations which is attributable to "rules" may also be attributable in part to one of the other variables which is highly correlated with "rules." A further analysis will be reported subsequently concerning this matter.

Differential Rewards as a Variable

The null hypothesis for "rewards" was stated as follows: there will be no significant difference between the mean score on the differential rewards continuum for the more and for the less innovative organizations. "Rewards" was added to the regression equation as the fourth independent variable and a chi-square of 3.08 was calculated with a probability value of .079 (Table 18). The tabular value of chi-square with one degree of freedom at the .05 level of significance is 3.84, and the calculated chi-square is not large enough to fall in the rejection region if one insists on the alpha level of .05. "Rewards," as was previously reported, had a positive correlation with "innovation" of .38. It would seem to the investigator to be an error to accept the null hypothesis of no difference. "Rewards" does appear to have a functional relationship to innovation in program development. In the Extension organization where staff members are encouraged in the pursuit of their personal interests, where recognition and achievement come from advancement in one's professional field, and where the reward system supports such an orientation, the ability to develop innovative programs would appear to be enhanced.

"Rewards" was correlated quite significantly with both the division of labor and the rules of the organization. If the measurement of job satisfaction, as perceived by organizational members, is an important element in the variable "rewards," then this same element may also be found in the division of labor and the rules and procedures vavariable. It has been demonstrated in studies of industrial production lines that as the tasks of employees become increasingly specialized the level of job satisfaction diminishes and the work experience becomes less rewarding. The presence or absence of contstraints on the individual as revealed by perceptions of rules and procedures may also be a factor in the level of job satisfaction and thus relate to rewards. A subsequent analysis will be made to determine if the "rules" and "rewards" variables when combined or grouped will provide more information concerning the relationship to innovation in program.

Impersonality of Interpersonal Relations as a Variable

According to the null hypothesis, there will be no significant relationships between the mean scores on the interpersonal relations continuum for the more innovative and for the less innovative organizations. "Relations" was the fifth covariate added to the regression equation. A tabular value for chi-square of 3.84 is needed for significance at alpha level .05. The computed chi-square value will not fall in the rejection region (Table 18).

The statistical relationship appears to be weak in terms of the regression analysis, and as was pointed out previously, a correlation coefficient of .05 does not indicate a strong relationship. For these reasons it would seem advisable to accept the null hypothesis of no difference. It may be that the adequate communication of ideas and the achievement of a common understanding which is believed to be a necessity for innovation in an organization are not dependent upon the nature of the personal or impersonal interaction both on and off of the job. One would expect that as impersonalness in interpersonal relations declined improved communication of understanding would result. The communication of ideas is felt to be essential in the conception and implementation of innovations. The level and quality of communication and social interaction among staff members of the organization and between staff members and clientele are inherent factors in the interpersonal relations variable, but according to the results of the analysis, they have practically no influence on innovativeness in program.

Total Budget as a Variable

Given the simple correlation of .68 between innovativeness and size of budget, there was a question of how the size of the organization was functionally related to its innovativeness. It seemed that arguments might be made both for and against the larger organization as a factor in increased innovation. Examples were available of large corporations with almost unlimited resources which have successfully established research and development units for the purpose of inventing or innovating; and simultaneously, examples could be cited where massive bureaucracies possessing rigid, unyielding, organizational structures and functions but well endowed with resources, were unable to initiate the desired level of innovation. One characteristic of organizational size which was felt to be important in relation to the dependent variable, "innovation," was the total yearly budget of the organization.

"Budget" was added to the regression equation as the sixth covariate and was found to be highly significant in predicting innovation in the organizations being studied (see Table 19). At the .05 level of significance a chi-square value above 3.84 would be adequate to reject a null hypothesis of no difference.

TABLE 19.--Step-wise Regression Analysis of the Contribution of the Covariates, "Budget" and "Personnel"

Name of Covariate Added	Order	Chi-Square	Degrees of Freedom	P
Budget	6	19.41	1	0.000
Personnel	7	1.85	1	0.173

The total budget of Cooperative Extension Service organizations seems to be the best predictor of innovation in program development that has been presented. As the number of dollars increases in each of the organizations being studied, so does their rated innovativeness in program development. The extension organizations with the greatest amount of financial resources are those which appear to have the most innovative programs. The explanation for this relationship between the financial resources and innovativeness in program may not be quite so simple as it now appears. The larger extension service organizations can afford to employ specialists to publicize their program efforts. They may obtain more publicity and better press coverage than the organizations with smaller budgets and less specialized personnel. The annual reports may also be misleading if the organizations with relatively large budgets are able to hire the most talented report writers. The rating of innovativeness in program development may be influenced by one or all of these factors which in turn would tend to strengthen the statistical relationship between "budget" and "innovation."

Total Personnel as a Variable

Another measure of organizational size which was considered to be an important variable was the total number of personnel employed in each of the forty-five organizations being studied. In Table 16 it was shown that there was a simple correlation of .61 between "personnel" and "innovation." "Personnel" was therefore added to the regression equation as the seventh covariate and the results are given in Table 19. A chi-square of 1.85 and an alpha level of .17 indicate that the relationship between "personnel" and "innovation" is not highly significant; however, it was noted in the analysis that when "personnel" was added to the regression equation ahead of "budget," both "personnel" and "budget" were highly significant (see Table 20). "Personnel" did not prove to be a significant variable following "budget" because the two are so highly correlated as was noted earlier (.97, Table 16), but when the order in the regression equation is changed, "personnel" becomes significant as a variable.

When "budget" was added to the regression equation ahead of "personnel," the mean square deviation attributable to "budget" was calculated first. The remainder of the mean square deviation which was attributable to "personnel" was not sufficient to indicate a significant relationship. Obtaining a significant relationship for both variables by reversing the order in which they were added to the regression equation indicates that there is a lesser amount of the mean square deviation in "personnel" which is shared in common with "budget" than there is mean square deviation in "budget" which is shared in common with "personnel." The mean square deviation which is parcelled out for the first variable in the regression is not available in testing relationships with subsequent variables.

TABLE 20.--Step-wise Regression Analysis of the Contribution of Variables When Added to the Regression Equation with "Personnel" Ahead of "Budget"

Name of Covariate Added	Order	Chi-Square	Degrees of Freedom	P
Personnel	1	19.92	1	.000
Budget	2	9.53	1	.002

The factors which account for the significance of "budget" are nearly the same as the factors in "personnel;" however, "budget" proved to have the strongest relationship to "innovation." Since both "budget and "personnel" are indicators of the size of an organization and because they are so highly correlated with each other, it was deemed appropriate to combine the values for the two variables into one variable called "resources" and test its relationship to "innovation" in a regression equation. The variable "resources" will be considered later on in this chapter with an interpretation of its relationship to "innovation."

Length of Service as a Variable

Some writers on organization have expressed the opinion that a high rate of turnover among personnel in an organization could result in increased innovation. They point out that traditional patterns of operation are disrupted by new employees who often bring different interpretations or perspectives to organizational functions. The average years of service as reported by organizational members provides a measure of the comparative rate of turnover among organizations.

The eighth covariate to be added to the regression equation was "service," and the computed chi-square was not high enough to be significant (see Table 21).

TABLE 21.--Step-wise Regression Analysis of the Contribution of the Covariates, "Service" and "Levels"

Name of Covariate Added	Order	Chi-Square	Degrees of Freedom	P
Service	8	1.86	1	0.172
Levels	9	1.75	1	0.186

The positive correlation between "service" and "innovation" (.27, see Table 16) means that as the average number of years of service increases, innovation in program development also increases. The correlation between "service" and "innovation" would need to be .29 to be significant at alpha level .05. A computed chi-square of 1.86 was obtained in the regression analysis and was not high enough for significance at alpha level .05. As can be seen from the p value (.17, see Table 21), the relationship between "service" and "innovation" is not highly significant. It seems that there is insufficient evidence to reject a hypothesis that those organizations with a relatively high rate of turnover in staff would be the most innovative in program development, but the correlation value obtained was high enough to cause one to deliberate on whether or not the opposite relationship of that in the hypothesis previously stated might be true.

The Number of Administrative and Supervisory Levels as a Variable

The complexity of organizational structure was thought to be associated with the level of innovativeness in organizations. The reasoning being that as the number of administrative and supervisory levels increases, the problem of implementing innovations also increases because there is the chance that a proposal may be vetoed at any hierarchical level through which it must pass before final approval--the more hierarchical levels the greater the probability of a veto of innovation in program.

If this theory were to be supported by the results of the study, the covariate "levels" would correlate negatively with "innovation," but the correlation was positive as previously reported (.52, see Table 16). "Levels" was added to the regression equation as the ninth covariate and did not prove to be significant (see Table 21). A tabular chi-square of 3.84 at alpha level .05 is required for significance, and the computed value for chi-square was 1.75 with an alpha level of .19, which is not statistically significant.

The total number of supervisory or hierarchical levels in each organization was not the measurement used in this study for the variable "levels." The measurement was the average number of administrative and supervisory levels between the respondents and the top administrator of the Cooperative Extension Service. It is only partly a function of organizational size or of personnel resources; generally, as the total number of personnel increases so does the number of supervisory and administrative staff positions in an organization. "Levels" appears to be a less satisfactory measure of the size of an organization than are "personnel" and "budget"; "levels correlates with "budget" .54 and with "personnel" .55. It may be that "levels" did not prove to be statistically significant because the factors in "budget" and in "personnel" which relate to "innovation" are nearly the same as those in "levels," and consequently, when "levels" follows "budget" and "personnel" in a regression equation, statistical significance can not be obtained.

Since "levels" correlated positively with "budget" (.54) and "personnel" (.55, see Table 16), it was felt that the influence of these two variables may have served as confounding factors in obtaining a positive correlation rather than a negative correlation as the theory would lead one to expect. "Levels" had a correlation coefficient of .52 with "innovation" which was high enough to be significant at the .01 level (r of .38 is required, see Table 16), but when "levels" was added to the regression equation following "personnel" and "budget," "levels" was not high enough to be reported as varying from zero except by chance. It would be difficult to ascertain meaningful relationships between "levels" and "innovation" because of the strong tendency for the variation in "levels" to be influenced positively in relation to "personnel" and "budget." Of the three predictors, "personnel," "budget" and "levels," the first two were determined to be the best because they were more highly correlated with "innovation" than was "levels." Conceptually, "levels" is the least adequate bureaucratic dimension used because, as has been pointed out previously, no effort was made to obtain a measure of the total number of levels in the organization.

Further Analysis Through Grouping of Variables

As was noted previously, several of the independent variables or covariates had positive correlation coefficients which were large enough in value to indicate some measure of dependent relationships between them. Three pairs of variables which had relatively high correlation coefficients and which seemed to be logically related to each other were selected for analysis by grouping. They were: "rules-rewards," "budget-personnel" and "division-relations." "Rules-rewards" and "resources," which is the name given to the combined variables, "budget" and "personnel," proved to be statistically significant in the analysis by grouping, while the "division-relations" pairing provided no new information. Statistics for the regression analysis with the three covariates, as grouped variables, are given in Table 22.

TABLE 22.--Regression Analysis with Three Covariates Consisting of Six Variables Combined in Groups of Two and "Innovation" as the Dependent Variable

Multiple R	Multiple R^2	F	P
0.701	0.49	13.17	0.0001

Degrees of freedom for hypothesis = 3
Degrees of freedom for error = 41

Nearly one-half of the variance in the level of innovation among state Cooperative Extension Service organizations may be accounted for by the three grouped covariates. The over-all relationship between the dependent variable "innovation" and the three grouped covariates is significant at alpha level .001 $_{(3,41)}$; however, only the first two covariates, "rules-rewards" and "resources," contributed new information on the significance level in relation to "innovation."

The rationale for grouping these variables, the statistical findings and the interpretation of the results will follow.

Rules-Rewards as a Grouped Variable

As the level of bureaucratization decreases in an organization, the number of rules and procedures governing the work situation as perceived by staff members may also decrease. Staff members may consider a situation to be quite rewarding where the constraints on their activities are perceived to be minimal and also flexible in application. The freedom to exercise personal judgments and individual initiative in setting goals and in finding solutions to work problems may be interpreted by the staff to be a form of compensation or reward for their efforts. The innovator may look upon the absence of these constraints as a reward in itself, and if so, one would expect to find a functional relationship between the "rules-rewards" variable and "innovation." The program innovativeness rating will be expected to increase as the degree of bureaucratization which is reflected in the "rules-rewards" variable decreases.

The analysis of the contribution of the independent variable, "rules-rewards," to "innovation" proved to be significant at the .03 alpha level (see Table 23). The "rules" and "rewards" variables when combined as a single factor will serve as a predictor of program innovativeness. The level of rewards as perceived by staff members apparently increases as the application of constraints in the form of specified rules and procedures decreases, and a climate conducive to increased innovation in program development results.

Organizational Resources as a Grouped Variable

The two measures of organizational size, "budget"-material resources and "personnel"-human resources, were combined into one independent variable with a value representative of each state extension service organization. The numerical score used as the measure for the variable "resources" was obtained by adding the standardized values for the total budget in dollars and the total number of personnel in each state organization.

TABLE 23.--Results of the Step-wise Regression to Analyze the Contribution of the Grouped Variable "Rules-Rewards" and "Resources"

Name of Covariate Added	Order	Chi-Square	Degrees of Freedom	P
Rules-rewards	1	4.60	1	0.03
Resources	2	21.26	1	0.0001

The total budget represents the expendable material resources which may be applied in accomplishing the goals of the organization; the number of personnel in the organization represents the human resources which may be directed toward the achievement of organizational goals. Since both material and human resources are factors to be considered in goal attainment and since the two types of resources have as previously noted a correlation coefficient of .97 (see Table 16), the combining of the two measures of organizational size into one variable appears to be a defensible approach for the analysis. Through this procedure a large part of the total organizational resources are represented in one variable.

It was expected that organizations with the greatest amount of resources would also have the greatest opportunity to develop innovations in their programs. The results of the analysis supported this expectation (see Table 23). The chi-square of 21.26 was significant at the .0001 alpha level, indicating that the variable "resources" is the best predictor of "innovation" of all the variables tested. The significance of this relationship is interpreted to mean that as the budget and staff of Cooperative Extension Service organizations increase in size, their relative ranking on innovativeness also increases. It is not possible to determine whether or not the rate of innovativeness among these organizations increases proportionately or disproportionately with the total budget and personnel because the values for innovativeness which were obtained for this study were ordinal rankings rather than ratio measures.

Other approaches to the analysis of the data were tried without significant results. The division of labor variable and the interpersonal relations variable were also grouped for analysis, but the results of the analysis did not provide information beyond that which was obtained and reported on the individual analysis of these variables. The variances of the responses to each of the five scales used in measuring bureaucratic characteristics were tested as covariates in a regression equation with "innovation" as the dependent variable for the purpose of determining if there was a relationship between the divergence of opinion as expressed in the responses to the questionnaire and the rated innovativeness of the organizations. No significant relationships were found between the "variance" and "innovation." The order in which the covariates were added to the regression equation was tested in several combinations to determine the best approach. The analyses which have been reported appear to provide the pertinent information contained in the data.

Results of Individual Information Reported in the Questionnaire

Six questions pertaining to each individual's relationship to the employing organization were included with the five scales designed to measure bureaucratic characteristics. These questions were presented in Chapter III. The questions on length of service, tenure in assignment and hierarchical levels were assigned values and reported in the analyses as the variables "service," "tenure" and "levels" respectively. The other three questions could not be assigned continuous values.

As was pointed out in Chapter III, the question on the nature of the work in Cooperative Extension Service was used to determine whether or not there might be significant differences in the way the subject matter specialist perceived the administrative characteristics of his organization in comparison to those with program leadership or supervisory responsibilities. The respondents gave one of four answers to this question as is shown in Table 24.

TABLE 24.--Response to Question Number "2" on the Individual Information Part of the Questionnaire*

Choice of Answers	Number Responding	Percent of Total
A- Subject Matter Specialist	442	71
B- Staff Supervisor	49	8
C- Program Leader	76	12
D- Otherwise (Specify)	54	9
	N = 621	100

*What is the nature of your work in Cooperative Extension Service?

Seventy-one per cent of the respondents considered themselves to be subject-matter specialists, 8 per cent reported their position as that of a supervisor, 12 per cent reported being program leaders and 9 per cent answered "otherwise." Those in the last category included extension personnel with mixed assignments; a majority of the group were extension editors, information specialists and radio and television staff members--all of whom did not consider their assignment as being classified with the subject matter specialist, but who did actually represent a specialized area of work on the state staff.

The ratio of supervisors to non-supervisory positions was quite close to the proportion which the investigator sought because about 50 per cent of the program leaders also considered their assignments to be in the supervisory category as well. A test was made to determine whether or not there might be significant differences in the perceptions of bureaucratic characteristics as reported by supervisory and non-supervisory personnel. It was difficult to obtain an accurate division between the program leader and supervisor categories because of the overlapping assignments; however, the responses of the supervisors were compared with those in other categories and *no* significant differences were obtained.

An attempt was also made to determine if there might be differences between full-time and part-time extension workers in their perceptions of the administrative characteristics of the extension organization. Respondents were asked to indicate to which unit or units they were assigned and the findings are reported in Table 25.

Eighty-one per cent of the respondents reported being full-time extension workers; less than 5 per cent indicated that their assignment was part-time extension and resident teaching; nearly 6 per cent gave their assignment as extension and research; about 8 per cent reported having a split assignment on extension, resident teaching, and research;

and less than 1 per cent did not consider their work as applicable to one of the first four categories. Over four out of five of the extension service staff members who responded to the questionnaire had a full-time assignment in the extension service. The size of the sample representing split assignments was so small and the slight differences in perceptions of bureaucratic characteristics between full-time and part-time extension workers were so dysfunctional that it was not possible to ascertain significant differences.

TABLE 25.--Response to Question Number "4" on the Individual Information Part of the Questionnaire*

Choice of Answers	Number Responding	Percent of Total
A- Extension	502	81.0
B- Extension and Resident Teaching	28	4.5
C- Extension and Research	37	5.8
D- Extension, Resident Teaching and Research	50	8.1
E- Otherwise (Specify)	4	0.6
	N = 621	100.0

*With which unit (s) are you assigned?

An attempt was also made to determine who was responsible for the performance rating of the respondents and if there were any differences between the perceptions of bureaucratic characteristics when respondents were rated by superiors in the extension service only and when performance ratings were made by supervisors in the academic department and/or the Experiment Station. Approximately 53 per cent of the respondents indicated that their extension service superiors were the only ones responsible for their performance ratings, 8 per cent reported being rated by superiors in the academic department and 6 per cent reported being rated by both extension and Experiment Station superiors (see Table 26). A large number of respondents (28 per cent) reported being rated by extension and academic department superiors, and 2 per cent indicated that performance ratings were made by superiors in all three segments of the university. Three per cent did not fit into one of the above classifications. An analysis of the differences between the responses of personnel rated only by extension superiors and those with performance ratings made by superiors in more than one unit did *not* provide significant information.

TABLE 26.--Response to Question Number "5" on the Individual Information Part of the Questionnaire*

Choice of Answers	Number Responding	Percent of Total
A- Superiors in Cooperative Extension Service	327	53
B- Superiors in the Academic Department	48	8
C- Superiors in the Experiment Station and Cooperative Extension Service	35	6
D- Both (a) and (b)	175	28
E- Both (b) and (c)	15	2
F- Others--Who?	21	3
	N = 621	100

*Who is responsible for your performance rating as it relates to salary and promotion?

Since determining differences in perceptions on the bureaucratic characteristics according to an individual's organizational situation was not the central focus of the study, the analyses of the data pertaining to the foregoing questions were limited to testing only the relationships previously presented.

Summary

An attempt has been made to present the analysis of the data, and the writer has given his interpretation of the statistical relationships which were found to exist between the variables when tested by correlation and multiple regression analysis. The writer will now draw conclusions and generalizations from the results of the analyses in terms of the implications these findings may have for institutions of adult education.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Collectively, the nine variables added to the regression equation were found to be significantly related to innovation in program development, but when the individual contribution of each variable was subjected to further analysis, not all of the variables were found to be predictors of innovation in program.

Forty-nine percent of the variation in innovation between the organizations which were studied was found to be attributable to four variables which were grouped in pairs--"rules-rewards" and "personnel-budget" or "resources." The first two variables are bureaucratic dimensions and the last two variables are indices of organizational size. One other bureaucratic variable, division of labor, was found to be associated with innovation, but the relationship was not as significant as the first four variables mentioned. The scope of the study placed limitations on the data which could feasibly be collected for some of the other variables. This limitation may account in part for the lack of significant relationships between some of these variables.

The Hierarchy of Authority and Innovation

The bureaucratic characteristic, hierarchy of authority, did not prove to be significantly related to the dependent variable. Such factors in this characteristic as the delegation of decision-making by superiors, the amount of individual initiative permitted or accepted, the relative need of superordinates to dominate in their contacts with subordinates, the specifications for channels of authority, and the subordinate's commitment or responsibility for his job may all vary without a corresponding change in the level of innovation in program in Cooperative Extension Service organizations. The level of innovation in these organizations appears not to be influenced by the way the professional staff interpret this particular characteristic of bureaucracy. The administrative characteristic, hierarchy of authority, may be perceived by the Cooperative Extension Service program staff as being either strictly or loosely interpreted, but it will probably have no relationship to the level of innovativeness in program development for that organization.

A rigid hierarchy of authority with mandatory channels of communication may serve as the means by which innovation is implemented, or innovations in program may evolve without the attention of the administrator. A preferred interpretation relates to the attitude of administrators toward innovations. If administrators are known to be supportive of innovative activities, they will likely be nurtured and advanced in the organization regardless of the way in which the hierarchy of authority is perceived. Satisfying the expectations of superiors is recognized as one way to obtain rewards.

The lack of any significant relationship between the hierarchy of authority and innovation in program may be attributable to a limitation on the data collected. The sample was intentionally restricted to only a portion of the hierarchical levels in each organization. The supervisors of extension programs experience both superordinate and subordinate relationships in their work roles, and the subject matter specialists serve in an advisory role or staff role. The staff role does not fit into the hierarchy in the same way that straight line superordinate-subordinate relationships are conceived at the different authority levels in the organization. The specialist may make proposals for program and suggest a course of action, but he does not have authority over other staff members in assigning and directing the tasks which need to be performed. The specialist does *not* have supervisory responsibilities unless he is a program leader with responsibility for the activities of other specialists. In this situation the specialist's formal authority does not extend beyond the specialist staff members under his jurisdiction as he functions in the capacity of a program leader.

There are a number of hierarchical levels in the extension service organization which were not included in the sample from which data were collected. The levels represented by the various administrators, the area agents, the chairmen of county staff members, the county agents and sub-professional levels such as secretaries and staff aids were not included in the sample. It is possible that significant relationships between "hierarchy" and "innovation" would result if the perceptions of staff members at all hierarchical levels in the organization were sampled. Since the specialist staff member's role does *not* conform well to the concept of hierarchy and the majority of respondents in this study were specialists, it is possible that a sample which included all hierarchical levels might produce different results. Further study of the relationship between bureaucracy and innovation might be designed to include a sample of organizational membership at all levels of the hierarchy. The Cooperative Extension Service or another type of adult education organization might be studied. If the organizations to be studied could be selected on the basis of their innovativeness and placed in two categories, those that are most innovative and those that are least innovative, then a comparison could be made by sampling the staff members' perceptions at all hierarchical levels without exceeding reasonable limits on the number of people from which data would be collected.

The Division of Labor and Innovation

The division of labor was significantly related to innovation in program development, but did *not* have the strongest relationship of the bureaucratic characteristics tested. The division of labor characteristics may have provided a stronger statistical relationship to innovation in program development if the sample data had been collected from representatives of all divisions of the organizations being studied. The division of labor may have been more rigorously practiced between other segments of the organization than in those from which data were collected, or the converse could be true. For this reason, it should be acknowledged that the respondents from which data for this study were collected did not represent all systems in the organizations.

The division of labor may be handled in such a way that it isolates program staff members from each other, or it may be organized so that interdisciplinary activities are encouraged. The division of labor may bring about an organizational climate where cooperative group activities are thought to provide opportunities for personal gains among group members, or it may effectuate a competitive situation where one person's gain is considered to be another person's loss.

Flexibility in the interpretation of the division of labor in an adult education organization appears to be conducive to innovation in program development. The Cooperative Extension Services which have an organizational structure that facilitates communication between program staff members and which functions in such a way that team work is not only possible but is acceptable to the program staff will likely be more innovative in program development than will the extension service organizations which adhere to an exacting or precise division of work responsibilities and support individual activities in preference to that which is done by groups. Where several staff members are involved in the development of an innovation, the innovation is more likely to be legitimized, accepted and implemented than if it is nurtured by one person working indepdently.

The group situation also brings a greater variety of skills and experiences to bear on a problem. The common interests which are shared by members of group activities may support the adoption of innovation. If an individual's work is evaluated solely on the basis of his production in a specific role, he will tend to withhold promising ideas for his own purposes rather than share them with others. The perceptions of Cooperative Extension Service program staff members on the way in which the division of labor is administered appears to influence the innovativeness of the organization in program development.

Many of the challenges which confront the extension service organications today require *more* than the services and attention of a single division or discipline within the organization. A typical problem may involve the services of administrators, sociologists, psychologists, engineers and scientists from a variety of technical areas. The administration of the program planning phases of work may be accomplished in a way that will encourage a multi-disciplinary approach to finding feasible solutions to specific problems, or the program planning may be done by independent segments of the organization, each segment considering only those aspects of a problem which pertain to the specialized area represented by the homogeneous training and experience of the planners. Thus, the planner's contributions to program development may be either divergent or convergent in nature depending upon the conceptual scheme from which these inputs are derived.

Divergency of inputs is associated with innovation in program development. This divergency may be accomplished in Cooperative Extension Service in more than one way. Selecting personnel from a variety of educational and cultural backgrounds will contribute to divergence. The division of labor may be administered in such a way that program planning will function on a multi-disciplinary basis as a natural consequence of organizational structure. The extension service organization which relinquishes control of specialist staff members to academic departments and permits program planning to proceed according to departmental lines or even to originate in the departments may *not* realize the full innovative potential of the staff members, unless the departments recognize the need for interdepartmental functions. It seems to the writer that the extension organization is in a better position than departments to serve as a catalyst in bringing about innovative solutions to programs based on broad problem areas. The extension service is in a position to establish the structure whereby specialists may be drawn into problem-oriented planning rather than the disciplinary or departmental approach. When program priorities were established, it would be the responsibility of staff groups to find ways in which each member could make the greatest contribution toward the implementation of these programs. Innovation would be a factor both in setting of priorities and in implementation of programs.

If all Cooperative Extension Service staff members who will be expected to support an innovative proposal are given an opportunity to participate in its planning, they will be more likely to enthusiastically participate in its implementation and evaluation. The administrative structure or division of labor may determine in part the way planning functions will proceed. If programs are based upon needs according to the requests of clientele and are planned by committess consisting of clientele and county workers, a limited amount of new ideas may be introduced; but if the knowledge available through the university staff is to be fully utilized, a means must be provided whereby the specialized competencies of extension staff members attached to academic departments may be applied in the planning process. It would seem that programs must develop with representation from all interested parties if divergence of views and innovative approaches are to be the result. The organizational structure will either make this type of representation possible, or it will tend to isolate those individuals who should have a unique or innovative contribution to make in the problem-solving process.

Rules-Rewards and Innovation

The bureaucratic characteristic, rules and procedures governing work functions, did not prove to be a significant predictor of innovativeness in program, but when this variable was combined with the bureaucratic characteristic, differential rewards of office, a significant statistical relationship was obtained. The relatively high positive correlation between the two variables was an indication that the variables had certain factors in common. It is possible that program staff members looked upon a loose or flexible system of organizational rules and procedures in the same way that they perceived the reward system in the organization with a low degree of bureaucratization. The absence of a proliferation of exacting rules and procedures may be one of the incidental rewards for those working in this type of organizational situation. The two variables when grouped serve as a better predictor of innovativeness in program than does either one of the variables singly.

Such factors as the privilege to express differing opinions, respect for personal interests and goals, recognition for leadership in a professional field and support in attaining professional and educational goals are the type of rewards associated with organizations which are rated highly innovative in program development. The members of the organizations are less inclined to seek administrative positions in preference to remaining in a specialized staff position. When the two bureaucratic characteristics are combined in the way that they have been described, they will serve as relatively good predictors of the level of innovativeness in program development of Cooperative Extension Service organizations.

One of the problems in some Cooperative Extension Service Organizations is the inability to break with tradition. The Smith Lever Act of 1914 can be interpreted in a narrow and limiting way or it can be interpreted in a way that will encompass many new and creative educational programs which may not have been specifically conceived by those who drafted the first bill. Subsequent amendments and supplements to the Act have broadened the scope of the extension program, but in many organizations there is a tendency to continue programs in the traditional way.

If those who are responsible for establishing organizational policy are known to be in favor of the traditional role and if they tend to support this orientation with the rewards system, their subordinates will probably respond with a similar orientation. Program planning and reporting procedures may be established so as to resist change. Extension organizations may administer constraints upon the innovators through a system of rules both manifest and latent. Informal pressures may be applied by colleagues which will cause the innovator to desist in his activities. Those responsible for imposing these constraints may do so without recognizing the consequences upon program development in their organization.

Employees of extension service organizations may over a period of time with normal turnover among staff members begin to emphasize a particular orientation. The reward system and the nature of constraints will provide evidence by which the employee may determine whether or not he is a misfit. If a staff member decides that his philosophy is incompatible with that of his colleagues, he may leave the organization or he may decide to conform. Those who leave the organization may feel that the reward system does not compensate for the conformity required. Specialists in the Cooperative Extension Service may transfer to academic departments and county agents may move to other organizations. By this selection process an organization may inadvertently eliminate the innovators from the staff.

The reward system of the university may be somewhat inadequate for extension workers. Many universities place a premium upon basic research work and technical or scholarly publications. Much of the extension program focuses upon community service with little opportunity for research, and the publications of extension are a semi-technical or popular-technical type of writing. An innovator may not be able to attain the desired recognition and status among professional colleagues in his field of study as a member of the extension organization. Thus, a discriminatory reward system which tends to de-emphasize the contribution of extension work may divest the organization of the most creative individuals, those who are capable of producing program innovations.

Impersonality in Interpersonal Relations and Innovation

The bureaucratic characteristic, impersonality in interpersonal relations, did not prove to be significantly related to innovation in program development. The level of formality or social interaction both on and off of the job between staff members holding different hierarchical positions is a factor in the interpersonal relations variable. The nature of the interaction between staff members and the clientele of the organization is also a factor of this variable.

It appears that the kind of interpersonal relationships established between staff members can not be functionally associated with the innovative capacity of an organization. The conception and implementation of innovative programs in the Cooperative Extension Service usually require attention and support from more than a single staff member; therefore, effective communication is a necessity. Communication between staff members in some Cooperative Extension Service organizations would seem to be effective for the production of innovative programs even though there may be a considerable amount of impersonality in staff relationships. The amount of innovation in program development can not be predicted with confidence by measuring the level of impersonality in interpersonal relations among staff members of Cooperative Extension Service organizations; innovation in program and interpersonal relations appear to vary with almost complete independence of each other.

Perceptions of impersonality in interpersonal relations were sampled from particular units of the extension service organizations, and it is possible that a sample from all segments of the organization would produce different results. Further study of the relationship between the five bureaucratic characteristics and innovation might be arranged so that the sample of organizational members will be a cross-section of the whole organization.

Resources and Innovation

The total budget in dollars proved to be a very significant predictor of innovation in program development as did the total number of personnel in the organization. When these two variables were combined, an even better predictor resulted. Human and material resources were found to be closely related to innovativeness in program development. The more money and the more people with which the extension service organizations have to work the greater the innovativeness in program development.

An extension service organization with a large number of staff members will have considerable diversity in relation to the subject matter disciplines represented by the program staff. It may also have several persons working in a particular subject matter area where an extension organization with a relatively small number of staff members may have only one person assigned to each subject matter area. The large extension service organization with many staff members has a greater variety of inputs to apply in the conception of innovative programs than does the small organization. There are increased possibilities for making adjustments in the staff member's assignments so that time may be set aside for exploratory activities. The large staff makes it possible for the extension service organization to be flexible in personnel management and assignment.

In the extension service organization the size of the budget is highly correlated with the total number of personnel. The size of the budget determines to a great extent the size of the staff and the material resources with which the organization will operate. Exploratory activities are costly in the initiation stages because of the high probability of error. The safest investment will be in those programs which are traditionally recognized as being worthy of support.

The small organization with limited material resources will tend to continue allocating funds in the areas represented by personnel competencies. Since the major part of the total extension budget is required for staff salaries, the small organization has very little leeway for making adjustments except as positions become vacant. Personnel and budget are both resources of the organization which have a strong influence on the nature of the program offered.

It appears that the larger the allocation of human and material resources in Cooperative Extension Service organizations the greater will be the magnitude of innovations in program development. An abundance of human and material resources may bring about slack in the large Cooperative Extension Service organization which in turn may contribute to innovation in program. Slack is that proportion of the organizational inputs which remains when the necessary level of outputs has been attained. With slack it is plausible to give more attention to innovative objectives and activities by relieving personnel from their normal, daily routine for special assignments. Slack makes it possible to set up a unit for the purpose of inventing or innovating. The organization with abundance of resources may have the slack to apply to innovative activities.

Griffith[1] in his development of a growth model of adult education institutions presented six stages of organizational development. The first three stages would require a high level of innovation for the genesis of a new institution, the setting of objectives and methods, and the selection of operating procedures and alternatives. The last three stages are characterized by a gradual decline in modifiability and in the organizational capacity to adjust to change. The organization has an accelerating growth rate through the third stage of development and then the growth curve reverses gradually and declines in the last stage. There is some indication that adult education organizations may alternate back and forth between these stages of development. The large adult education organizations with an abundance of resources may have been able to develop a means of returning to the plastic stage of development where the testing of alternatives and innovation are a natural function.

Adult education organizations increase in size as they move through the stages of growth. Their success in adjusting to the environment is dependent upon their structural and functional malleability. It appears that at least four of the characteristics of bureaucracy may influence structural and functional malleability. The hierarchy of authority characteristic will *not* necessarily be seen as precise and exacting in large adult education organizations, however. It is possible for the administrators of adult education organizations to delegate autonomy to their subordinates in the hierarchy so that the degree of bureaucratization perceived does not increase as the organization grows. The findings of the study tend to support this observation.

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[1] Griffith, *op. cit.*, pp. 277-289.

Innovativeness appears to play an important role in the growth of adult education institutions. The small developing institution will rely on innovations to adjust to its environment. If it is unable to innovate and adjust, its growth will be retarded, and it may remain small. The successful institution may continue to innovate and adjust, thereby maintaining its growth rate.

Average Length of Service and Innovation

The average length of service or, phrased in another way, the rate of turnover in a Cooperative Extension Service organization had little or no statistical relationship to innovativeness in program. Innovation in program development appears to be quite independent of the length of time employees have spent in the organization. It is possible that neophyte employees are no better able to innovate in an institutional climate, which is *not* conducive to innovators, than are their colleagues who have been employed for extended periods of time in the same organization and position; and conversely, if an adult education organization supports innovative endeavors, both the new and the more experienced employees will be able to implement innovations in program.

Average Number of Administrative and Supervisory Levels and Innovation

The average number of administrative and supervisory levels between the respondents and the top administrator in the organization was used as a means of determining how many hierarchical positions an innovative idea might possibly have to pass in moving up through the channels of authority; the theory being that the greater the number of hierarchical positions, the greater the possibility that an innovative proposal will be vetoed. The theory was not substantiated by the results of the analysis. There was a slight indication of a relationship in the opposite direction to that supported by the theory, but this relationship was not statistically significant.

The subject matter specialists and the supervisors do *not* have as many hierarchical positions between them and the top administrator of the Cooperative Extension Service organization as do some of the other members of the staff who were *not* included in the organizational sample. It is possible that staff members having a larger number of hierarchical positions between them and the top administrator would *not* perceive the bureaucratic characteristics as was done by the respondents in this study.

The bureaucratic characteristics, hierarchy of authority and impersonality in interpersonal relations did *not* prove to be significant as predictors of innovation in program development. The division of labor and the combined variable, "rules-rewards," are bureaucratic characteristics which correlate to innovation in program development in adult education organizations of the type being studied. The strongest predictor of innovation in program was the amount of human and material resources available to the organizations being studied. There are however, some limitations on the way in which the relationship between "resources" and "innovation" can be interpreted and this matter will be considered in the following section.

Inferences for Adult Education and the Study of Other Institutions

Assuming that administrative characteristics as perceived by supervisory and specialist personnel of Cooperative Extension Service will be interpreted and reported similarly by professional staff members in other organizations, some of the significant relationships found in this study may have implications for institutions other than the forty-five organizations studied. In the past some of the most significant innovations in adult education have come about as the result of the efforts of one individual with highly creative abilities and leadership qualities who was able to attract other persons to support his endeavors. A charismatic type of leadership has been the prominent feature around which many of these new institutions of adult education have developed.

The major part of adult education endeavors today are affiliated with large bureaucratic organizations. Adult education programs in universities and colleges, public school adult education, adult education in business and industry, in government and the miliary organizations, in labor unions and in religious institutions are examples of adult education as a part of large bureaucracies. The number of institutions of adult education controlled and operated by charismatic leaders are rather insignificant in relation to those bureaucratic types of institutions which have been cited.

It appears to the writer that the major portion of adult education work in the future will be directed for the most part by some type of bureaucratic organization. Some of the bureaucratic administrative characteristics which have been associated with the level of innovativeness in extension services may also influence the innovativeness of other adult education organizations and the larger institutions of which they are a part. An innovation may be imposed by strong administrators, but the level of innovativeness in the organization and the successful implementation of innovativeness may be dependent upon the perceptions of staff members concerning the administrative characteristics of the organization.

If the division of labor is handled in such a manner that interdisciplinary programming is discouraged, if individuals are inclined to be reluctant to share new ideas with colleagues and if the climate for cooperative group endeavors is *not* cultivated, then program innovation in these institutions of adult education may be minimal. A divergence of individual contributions should result when work functions are designed to involve personnel who are representative of a variety of skills and experiences and when the division of responsibility is less clearly defined. Innovative contributions are expected to come from this type of organizational situational when the participants in group activity are striving for new ideas.

Freedom from constraints in the form of specified rules and operating procedures may be associated with the system of rewards in adult education institutions. Employees of organizations have been found to respond favorably to rewards which are designed to satisfy more than just the individual's need for maintaining an acceptable standard of living. The need for professional recognition and accomplishment may be a strong motivating factor, and this need can be satisfied in organizations where the reward system permits, encourages, and actively supports activities designed to help the membership attain professional goals.

When rules and procedures are perceived by individuals as constraints which block their progress toward personal goals, the rewards which are offered may not satisfy their felt needs. Staff members' perceptions of rewards were found to be related to their innovation in program for one type of adult education organization, and these relationships could likely exist in other adult education organizations or even in other types of institutions. Employees' perceptions of rewards based upon exacting, precisely interpreted standards of bureaucratic administration could serve as a depressant upon their innovative inclinations. The professional employees' perceptions of rewards which are influenced by these precise and rigorously interpreted standards of bureaucratic administration could be a deterrent to normal or natural activities which would lead ultimately to innovation in their institutional programs.

If size is a factor in the level of program innovation in adult education organizations, it is most likely because of the increased number of human and material resources which may be applied to innovative activities. As the amount of human and material resources increases, the possibilities for new and different organizational relationships also increase. Provided that an organization is seeking innovation in program, there should be a higher probability of achieving innovative inputs in the large organization with an equally large amount of human and material resources than in the small organization where these resources are limited to those which are essential for maintenance functions. If the organization has slack, the available resources may be applied to obtain innovation in program.

The concept of bureaucracy provides a model through which differences in administrative characteristics of organizations may be studied, but there is a lack of independence between the five dimensions used in this study which tends to complicate the statistical analysis. It is possible that through the use of factor analysis the degree of independence between the scales of the measuring instrument could be improved. The writer feels that the bureaucratic model is sufficiently sound to merit further refinement and study.

If the investigator were in charge of an institution and were interested in the development of innovative outputs, he would try to provide an organizational structure which would permit all levels of the hierarchy to share in the development of new or innovative programs. The division of labor would be pliant and tractable so that staff members were minimally concerned about individual responsibility and maximally concerned about the over-all success of programs.

A minimum of specified rules and procedures would be a force, and these guidelines would be supplemented by employee initiative in making judgments about individual decisions and actions which might affect the organization. The reward system must be designed to provide for both maintenance and motivational needs. Staff members would be given opportunities and support to participate in professional meetings and would be encouraged to become involved in any activity which would further worthy professional goals. The distribution of rewards would be based upon the contribution each individual makes toward the growth and development of the organization.

An attempt would be made to limit the total program offering to that which could be done most effectively by the organization. Provisions could be made for maintaining a balance between program deletions and additions. Those programs which were contributing the least toward the attainment of organizational goals would be discarded before any new offering was considered. In this way a limited amount of slack could be retained and the chances of being able to implement innovative programs would be increased.

The kind of administrative style which is most likely to support innovation is that which draws upon the talents of all personnel in the organization. If all members of the organization are to make the maximum potential contribution toward organizational innovativeness, they must have a feeling of personal commitment to the goals of the organization. Commitment to the goals of the organization appears to be dependent upon the individual's involvement in determining and setting objectives. An administrative style characterized by rigid, exacting bureaucratic standards would make no provisions for involving individuals in the development of organizational objectives and would tend to place constraints on individual behavior. An administrative style which was so completely free and flexible that it was devoid of leadership would *not* provide the proper organizational climate for effective group involvement in setting organizational goals. An administrative style with sufficient structure to facilitate cooperative group activity and with sufficient malleability to nurture the growth and development of all staff members as integral parts of the organization appears to be most likely to succeed in the development of innovative programs. The findings of this study seem to the investigator to support the recommendations which have been presented.

Limitations of the Study

While the objectives which were initially established for this study have been attained, there are three areas which seem to the investigator to be limiting factors in relation to the results. The ordinal measurement of innovativeness in program development which was used as the dependent variable did not permit comparisons of the magnitude of innovation according to organizational size. The population from which the sample was taken represented only one type of adult education organization thus limiting the breadth of generalizations. Through further testing and analyses, the size of the questionnaire could probably be reduced without adversely affecting validity or reliability and some of the scales could likely be improved.

The rating of states on innovativeness in program development provided data which could be used to establish a rank order of the more and less innovative programs, but the ratings did not provide data on the relative number or magnitude of innovations in states. If it were possible to obtain a proportional measure of innovativeness which was based upon the number of innovations in a given period of time and the relative size, cost, or magnitude of these innovations in terms of organizational adjustments and change, then additional information could be obtained concerning the variables which serve as predictors of innovation in program.

The human and material resources of an organization were determined to have the strongest relationship to innovation in program development, but the question remains unanswered on whether or not a small organization can produce proportionately as many innovations in program development as a large organization, making allowances for differences in the amount of available human and material resources. Some of the small organizations included in this study could have proportionately more innovation in program development than some of the larger organizations.

The large organizations which had the greatest amount of human and material resources and which were rated as most innovative may have attained their position on the ratings because their activities were better known to the raters than were those of the small organization. The staff members in the large organizations could have been more aware of the need and means for publicizing their activities, and they may have been more skilled in reporting their activities than the members of the small organizations with limited resources.

Another limitation concerned the population being studied. Adult education is a broad field of activity, and there are many types of organizations involved in adult education program development. While the purposes of these organizations come under the broad heading, education of adults, there are a great variety of specific objectives represented by such organizations. Their sources of finance, their clientele, their organizational affiliations, and their human and physical resources also vary considerably. Because of this variation it is difficult to justify generalizations on the broad field of adult education. One cannot say with complete confidence that a relationship found to exist in one type of adult education organization will also be found in others which have different purposes.

The questionnaire is also considered to be a limiting factor in this study. Even though considerable time and effort was expended prior to the pilot study and during the pilot study, the investigator felt that continued testing and refinement of the instrument would have produced improvements. If the number of items in each scale could be reduced without sacrificing the validity or reliability of the scales, it would be desirable. Further testing of items might provide a better selection of statements for increased measures of validity, reliability and the discrimination of bureaucratization on each scale. The limitations of the study which have been discussed also suggest areas for further research.

Recommendations for Further Research

Theories on the innovative organization are numerous, and attempts have been made to explain the relationship between bureaucratic administrative concepts and innovation in organizations, but research studies which produce evidence to support these theories are in very short supply, and there is a need for follow-up on the studies to substantiate or verify earlier findings. Related research pertaining to the subject of this study could be directed in two different ways. The methods used in data collection for this study could be applied to another population of adult education organizations, or a new means of measuring innovation in programs could be developed. The instrument to measure bureaucracy could be further refined and the same population of organizations subjected to additional study.

The investigator has considered developing a new approach to the measurement of innovation in program. The amount of resources as determined by total budget and total personnel was found to be the most significant factor in relation to innovativeness in program; stated in another way, the larger the organization the higher the rating of innovativeness. A method of measuring innovativeness is needed which will permit proportional comparisons between the innovativeness of the organizations being studied; one could control for organizational size in an analysis and obtain information on the rate of innovation as it relates to organizational size and also to bureaucratic characteristics.

Measures of the rate of innovation might be accomplished in the following way. A survey could be conducted to determine what kinds of innovations have been introduced in the organizations to be studied during a specified period of time. The different types of innovations would then be listed on a questionnaire or interview schedule which would be designed to obtain responses relative to the conception and adoption of innovations, the time of conception and adoption and the extent of their use or application in the organization. Numerical values could be assigned to the various categories of response, and the organizational score would be the sum of the various response values. This approach to measuring organizational innovativeness would make the use of ratio comparisons possible.

There are variables other than the bureaucratic characteristics that relate to innovativeness in program development of adult education organizations. The resources of an organization has been found to be an important variable, and when combined with the bureaucratic characteristics, the combined factors account for approximately one-half of the variance between the organizations studied. The remaining one-half of the variation must be attributable to other factors. These factors might include such things as the level of the perceived need for innovation, staff competence in program development, the nature of the organizational structure and the slack built into the program and staff assignments. One or more of these factors might be related to innovativeness and account for part of the variation between adult education organizations.

It appears to the writer after the experience of conducting this investigation that one factor other than the characteristics of bureaucracy which may influence the magnitude of innovative programs produced by an adult education organization is the process of "natural selection" in staffing organizations. Some of these organizations seem to maintain status quo inadvertently as a direct result of certain administrative policies. There may be a process of selection operating in adult education organizations which tends to determine the peculiar characteristics of their staff members. Many administrators are inclined to favor the propective employee who has values and experiences in common with their own; they are often prone to be dubious concerning the individual whose background and training lie outside of the realm of their own personal experience. It is quite common on a university campus for students and staff members oriented in one field of study to disparage the work of those functioning in another unfamiliar field. The administrator may be most willing to delegate responsibility to a staff member who he feels will support his policies and may in other ways reward the person who follows his leadership implicitly.

If this phenomenon is active in some adult education organizations, it may result in the gradual development of a homogenous staff *vis-à-vis* their values, cultural background, personal traits, habits, education and work experiences. The opportunity to work with this kind of subordinates will appear to be quite advantageous to some administrators. The staff members may be very efficient in carrying out the objectives of their superiors and could likely be controlled with relative ease. The employment policy, if consistent over a period of time, is a means of building this kind of organization. Employees who perceived themselves as misfits would likely move to a more congenial environment or strive to adjust to the expectations of their fellow workers and administrators. Staff members in an adult education organization of this type would likely resist the divergent thinker and look upon conflicting points of view as being disruptive of organizational harmony and functioning, the administrator may feel that the person who examines policies critically is non-supportive and threatening in relation to his leadership role. A need for innovation in program may be recognized by both administrators and their subordinates, but they will *not* be able to innovate because of the values, philosophy and structure pervading the organizational membership and functions.

The writer feels that a natural selection process may operate in hiring and in terminating the employment of personnel of adult education organizations. Some administrators of adult education may strive toward a utopian concept of organization and unknowingly develop a system which is incapable of innovating in program development.

Another approach to understanding innovation in organizations would be to challenge the concept that administrative characteristics are best described on a dimensional bureaucratic continuum. Administrative leadership has been categorized as laissez-faire, democratic and autocratic. The laissez-faire administrator and the autocratic administrator may operate on opposite ends of the bureaucratic continuum, but the investigator does not believe that the democratic administrator lies between these two extremes. The categories or types of administration are conceived by the investigator as representing the three vertices of a triangle with each possessing some factors in common, but also possessing unique factors not found in the others. If this conceptual scheme were correct, then the dimensional bureaucratic concept may be inaccurate.

The study of organization is complex due to the many interrelated systems which act upon each other in time, and consequently, it seems futile to attempt to explain organizational relationships in simple theoretical terms. Continued research on this problem should provide evidence to support or prove erroneous the conclusions which have been presented herein and would also contribute to a better understanding of adult education organizations.

A Note in Summation

The results of this research suggest that there are important relationships between certain characteristics of bureaucratic administration and the innovativeness in program development demonstrated by adult education organizations, at least to the extent that the sample studied and the methodology used is representative and appropriate. The innovativeness in program for this type of adult education organization can be predicted in part by the way staff members perceive the division and function of work tasks, by the staff members' conceptions of rewards for service and rules governing work activities, and by the amount of human and material resources available for program development. When certain of these characteristics of administration are precise and exacting in structure and function, highly bureaucratized, they appear to be more of an impediment than a support *vis-à-vis* the program innovativeness of organizations.

APPENDIX I

THE INSTRUMENTS

The Pilot Study Instrument

ORGANIZATIONAL INVENTORY

I would like to obtain some information about the organization with which you are employed. This questionnaire consists of a number of statements about organizations. Please indicate how well each statement characterizes your organization. If there is a difference between what you perceive your personal situation to be and what you perceive as typical for the whole organization, give your opinion on how well the statement typifies the situation for the majority of staff members in the organization.

There are five possible responses to each statement with a scale as follows:

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Circle the response which you believe *most nearly evaluates* the statement. It will be most helpful if you can respond to all items; however, if you feel that the item is *not* applicable to the organization, leave it blank. No attempt will be made to identify you with your responses, so do not hesitate to give your true judgment on each statement.

Response from ______________________________
Name of organization only

____

Scale

I 1...Staff members have the authority to make major decisions on problems relating to their work roles. DT GT U GF DF

I 2...There can be little action until a superior approves a proposed activity. DT GT U GF DF

I 3...Equipment and supply needs for each organizational role are determined by the administration (management). DT GT U GF DF

I 4...Personnel whose primary task is to serve the organization's clientele are encouraged to rely on their own judgment in determining how the service is to be performed. DT GT U GF DF

I 5...The administration schedules regular meetings to check on personnel activities. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

I 6...Staff members feel that they are responsible for the success or failure of jobs undertaken by the organization. DT GT U GF DF

I 7...Staff members discuss work problems with persons in the highest administrative positions without an intermediary's approval. DT GT U GF DF

I 8...People here would like to have more authority delegated to them. DT GT U GF DF

I 9...Persons holding administrative positions have responsibility proportionate to their ability. DT GT U GF DF

I 10...An individual is permitted to determine which approach is best for each work task within his assigned role. DT GT U GF DF

I 11...Special permission must be granted in order to obtain supply or equipment needs. DT GT U GF DF

I 12...The way things are done here is left to the discretion of the person doing the work. DT GT U GF DF

I 13...Staff members do *not* get instructions from superiors on how specific jobs should be done. DT GT U GF DF

I 14...A person who wants to make his own decisions on work roles would become discouraged here. DT GT U GF DF

I 15...The administration demonstrates complete confidence in the staff members' ability to solve organizational problems. DT GT U GF DF

I 16...The determination of equipment and supply needs is left up to the person who uses it. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

I 17...Questions relating to work tasks must be referred to administrative superiors for a final answer. DT GT U GF DF

I 18...Staff members are permitted to conduct their work activities on the basis of how they personally perceive each situation. DT GT U GF DF

I 19...Personnel tend to accept responsibility for the outcome of work tasks which have been defined and delegated by superiors. DT GT U GF DF

I 20...Communication with persons holding the highest administrative positions must be handled through specified channels. DT GT U GF DF

I 21...Most people here are encouraged to make their own decisions and stick by them. DT GT U GF DF

I 22...There is a discrepancy between the responsibility and the ability of those holding administrative positions. DT GT U GF DF

I 23...The staff members who conform to their superior's conception of how things should be done will receive the highest performance rating. DT GT U GF DF

I 24...Personnel can get their supplies or equipment without securing prior authorization. DT GT U GF DF

I 25...Persons in administrative positions are disposed to feel that they have the best solutions for the work problems of their subordinates. DT GT U GF DF

I 26...People here receive unsolicited instructions from their superiors on how to perform work roles. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

II 1...Staff members frequently collaborate with people assigned in other segments of the organization in planning and carrying out their work. DT GT U GF DF

II 2...One has to be cautious about working in activities which over-lap with another person's area of work. DT GT U GF DF

II 3...Each staff member works under quite similar circumstances from day to day. DT GT U GF DF

II 4...Work activities are organized so that the division line between each person's area of responsibility is specified. DT GT U GF DF

II 5...Staff members are *not* apprehensive about working with people from divisional units other than the one to which they are assigned. DT GT U GF DF

II 6...We are expected to respond to the needs of other staff members in the tasks they are assigned to perform. DT GT U GF DF

II 7...There are *no* specific job descriptions here. DT GT U GF DF

II 8...New personnel are informed on what the limits of their area of work should be as it relates to the assignments of colleagues. DT GT U GF DF

II 9...The administration readily recognizes accomplishments which are made by staff members working outside of their primary assignment. DT GT U GF DF

II 10...One staff member will not object to another's activities when the activities over-lap with his assigned area of work. DT GT U GF DF

II 11...People here are expected to produce results in carefully specified areas of work activity. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

II 12...Staff members assigned in one unit of the organization generally do *not* have the competence to function in other units. DT GT U GF DF

II 13...People here are fully aware of what their colleagues in other work areas are doing. DT GT U GF DF

II 14...Each person's organizational contribution is made in the specific unit to which he is assigned. DT GT U GF DF

II 15...The staff functions relating to more than one discipline, specialty, or assigned area of work are strongly supported by staff members. DT GT U GF DF

II 16...There is no reason why a person's day to day work tasks cannot be varied according to his interests. DT GT U GF DF

II 17...A staff member would not object if he found out that a colleague had attempted to solve a problem in his assigned area of work. DT GT U GF DF

II 18...Personnel are encouraged to confine their activities to their particular assigned area of work. DT GT U GF DF

II 19...Non-supervisory staff members are not expected to be concerned about the success or failure of tasks performed by another person in the organization. DT GT U GF DF

II 20...There is a written specific job description for every job. DT GT U GF DF

II 21...Personnel are considered by the administration to be sufficiently capable to recognize the limits of their work competency. DT GT U GF DF

II 22...Individual assignments are made on the basis of a clearly discernible division of responsibility. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

II 23...Most people here are so busy there is little time to consider what colleagues are doing. DT GT U GF DF

II 24...The selection of new personnel is based on expected future work tasks rather than on past job analyses. DT GT U GF DF

II 25...Personnel are expected to recognize a need to function in work areas outside of their assigned tasks when it is possible to make a contribution. DT GT U GF DF

II 26...Staff members feel that they have all they can do without being concerned about what others are doing. DT GT U GF DF

III 1...The organizational rules and regulations are to be carefully followed. DT GT U GF DF

III 2...Personnel are able to regulate their working hours within suggested bounds as the work requires. DT GT U GF DF

III 3...People here find it necessary to stretch the rules in order to get the job done. DT GT U GF DF

III 4...The supervisor's or administrator's way of doing the job is probably the wisest choice for his subordinates. DT GT U GF DF

III 5...The staff members are expected to criticize a directive if they feel that it is not appropriate. DT GT U GF DF

III 6...Personnel are always left to their own judgment as to how to handle problems in their assigned areas of work. DT GT U GF DF

III 7...Periodic checks are made to determine the extent of rule violations. DT GT U GF DF

III 8...Individuals are expected to exercise self-reliance in determining the procedures to be used in performing work roles. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

III 9...There is no written rules manual for the organizational members to follow. DT GT U GF DF

III 10...Employees are urged to develop better methods for performing work tasks. DT GT U GF DF

III 11...Staff members find it necessary to work out the means by which job goals are attained. DT GT U GF DF

III 12...A standardized procedure is followed in handling rule violations to assure equality of treatment. DT GT U GF DF

III 13...Personnel are required to make periodic progress reports to verify actual accomplishments in assigned work roles. DT GT U GF DF

III 14...Staff members circumvent rules which they believe interfere with the achievement of work goals. DT GT U GF DF

III 15...The individual staff member determines when vacation schedules and work loads are *not* in conflict. DT GT U GF DF

III 16...Rules and procedures are *not* limiting factors in getting the job done. DT GT U GF DF

III 17...More emphasis is placed on achieving problem solutions than on determining which method is proper for arriving at the solution. DT GT U GF DF

III 18...Staff members are expected to follow written orders coming from superiors without question or modification. DT GT U GF DF

III 19...A subordinate is expected to go to a designated superior for assistance on any unsolved problems. DT GT U GF DF

III 20...Personnel find it necessary to "cut the red tape" (bend the rules) in order to get the job done. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

III 21...Staff members are encouraged to follow specified operating procedures in much of the work they do. DT GT U GF DF

III 22...The members of the organization follow a manual of rules on matters pertaining to work procedures. DT GT U GF DF

III 23...Routine work tasks are handled in a specified way. DT GT U GF DF

III 24...When a problem arises for which a person has *no* immediate solution, he is always expected to pass it on to a designated superior. DT GT U GF DF

III 25...The problems in the organization are too varied to permit normalization of procedures. DT GT U GF DF

III 26...Rules and procedures on work methods are carefully explained to new employees. DT GT U GF DF

IV 1...Emphasis is placed upon helping staff members achieve personal professional goals while working at their particular assigned roles. DT GT U GF DF

IV 2...The work load is so heavy on the job that there is little time for participation in professional associations. DT GT U GF DF

IV 3...A promotion within the organization is *not* contingent upon one's personal acquaintanceship with the administration. DT GT U GF DF

IV 4...The distribution of salary increases is determined mainly by how well staff members accomplish the tasks which they themselves have proposed to do. DT GT U GF DF

IV 5...Those with service seniority are most eligible for advancement. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

IV 6...An error in judgment is not easily reconciled with the administration. DT GT U GF DF

IV 7...Staff members are *more* inclined to measure success in the organization in terms of one's performance than in terms of the position one holds. DT GT U GF DF

IV 8...There is open competition among the personnel within the organization for administrative positions. DT GT U GF DF

IV 9...Staff members are periodically consulted for the purpose of establishing criteria upon which to base performance ratings. DT GT U GF DF

IV 10...The salary offered new employees is based on a fixed schedule which allows only for experience and professional training. DT GT U GF DF

IV 11...Acceptance professionally in the organization is dependent upon one's willingness to perform as expected by the administration. DT GT U GF DF

IV 12...Organizational policy calls for periodic changes in personnel assignments to broaden the conceptions of staff members regarding organizational purposes. DT GT U GF DF

IV 13...Staff members have the opportunity to direct their work activities into areas of personal interest. DT GT U GF DF

IV 14...The highest recognition for achievement in the organization goes to those in administrative positions. DT GT U GF DF

IV 15...Adequate time and resources are set aside by the organization for staff members' participation in professional associations. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

IV 16...A person's advancement in the organization is primarily dependent upon his ability to identify problems and work out solutions. DT GT U GF DF

IV 17...A fixed procedure is followed in determining salary increases. DT GT U GF DF

IV 18...Length of service carries relatively little weight in the distribution of salary increases. DT GT U GF DF

IV 19...The administration makes liberal allowances for errors in judgment when personnel are engaged in exploratory activities. DT GT U GF DF

IV 20...Advancement to an administrative position is the primary sign of success in the organization. DT GT U GF DF

IV 21...Staff members find greater incentives for increasing skills and knowledge in their chosen field than for holding an administrative position. DT GT U GF DF

IV 22...Staff members are seldom advised of the criteria used in performance ratings. DT GT U GF DF

IV 23...The salary of new staff members is negotiated on the basis of their expected value to the organization. DT GT U GF DF

IV 24...The values held by administrators support the person who prefers to do his job somewhat differently from the majority of staff. DT GT U GF DF

IV 25...Organizational policy is such that personnel must work in the same location and assignment year after year. DT GT U GF DF

IV 26...Activities related to personal work interests must be subordinated to organizational demands. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

V 1...Staff members' interests in each other's activities are determined primarily by the requirements of the work functions. DT GT U GF DF

V 2...There are formal restrictions on making contacts with clientele on matters pertaining to the staff member's work. DT GT U GF DF

V 3...Employee social functions are well supported by the organization's personnel. DT GT U GF DF

V 4...The administration sets the pattern for free, informal communication with subordinates. DT GT U GF DF

V 5...The administrators of a particular geographic unit have little or no contact with the families of employees assigned to that unit. DT GT U GF DF

V 6...Staff members form their primary social or friendship groups with fellow employees. DT GT U GF DF

V 7...Many lasting friendships are developed with clientele as a result of work contacts. DT GT U GF DF

V 8...Staff members do *not* address administrative superiors by their first name while on the job. DT GT U GF DF

V 9...The administration maintains the same kind of working relationship with each employee. DT GT U GF DF

V 10...Many staff members get together for evening or weekend recreational activities. DT GT U GF DF

V 11...People here seem to have quite divergent professional interests. DT GT U GF DF

V 12...The need for detached relationships with clientele representing special interest groups is stressed. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

V 13...There seems to be an inability to communicate understanding between some segments of the organization. DT GT U GF DF

V 14...Interpersonal working relationships between staff in different functional units of the organization are as productive as working relationships within units. DT GT U GF DF

V 15...The characteristics of the clientele group which is to be served by staff members are *not* specified by the administration. DT GT U GF DF

V 16...Employees of the organization never seem to find time to get together for social events. DT GT U GF DF

V 17...The administration belongs to one social group and the rest of the personnel belong to another. DT GT U GF DF

V 18...The administration sponsors social activities involving the families of staff members. DT GT U GF DF

V 19...Most of my social contacts or friends work in other organizations. DT GT U GF DF

V 20...It is organizational policy to treat all clientele the same regardless of who they are. DT GT U GF DF

V 21...Administrators prefer to have subordinates speak to them on a "first name" basis. DT GT U GF DF

V 22...The administrators make each employee feel that the employee's personal concerns merit special consideration from the administrator. DT GT U GF DF

V 23...Very few of the staff members get together for evening or weekend recreational activities. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

Scale

V 24...Staff members derive more satisfaction from working on a problem requiring their combined group effort than from working alone. DT GT U GF DF

V 25...There are no guidelines to follow in determining how one should relate to a clientele group. DT GT U GF DF

V 26...The work situation is characterized in part by a high level of mutual understanding between the various segments of the organization. DT GT U GF DF

The Final Questionnaire

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF EDUCATION

ORGANIZATIONAL INVENTORY

I would like to obtain some information about the organization with which you are employed. This questionnaire consists of a number of statements about organizations. Please indicate how well each statement characterizes your organization. If there is a difference between what you perceive your personal situation to be and what you perceive as typical for others in the organization, give your opinion on how well the statement typifies the situation for staff members working in positions on a similar level to your own.

There are five possible responses to each statement with a scale as follows:

DEFINITELY TRUE	GENERALLY TRUE	UNDECIDED	GENERALLY FALSE	DEFINITELY FALSE
DT	GT	U	GF	DF

Circle the response which you believe *most nearly evaluates* the statement. It will be most helpful if you can respond to all items; however, if you feel that the item is *not* applicable to your organization, leave it blank. There is *no* need to identify you personally with your answers, so do *not* hesitate to give your true judgment on each statement. Your administrators will *not* receive information concerning your answers, and your organization will *not* be identified in *any* report.

Definitions:

"Staff members" and "personnel" are used synonymously and refer to fellow workers holding positions on *comparable levels* in the organization to your own.

"Administration" and "management" refer to top level members of the Extension Service organization who are responsible for major policy-making decisions.

The "organization" is to include all people who have either full or part-time responsibilities for Extension Service activities.

The "random sample" which is being contacted is limited to state, district, or area supervisors, program leaders and subject matter specialist.

Response from ____
Name of organization only

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

1... Most people here are encouraged to make their own decisions and stick by them. DT GT U GF DF

2... Personnel are encouraged to confine their activities to their particular assigned area of work. DT GT U GF DF

3... The members of the organization follow a manual of rules on matters pertaining to work procedures. DT GT U GF DF

4... The values held by administrators support the person who prefers to do his job somewhat differently from the majority of staff. DT GT U GF DF

5... Administrators prefer to have subordinates speak to them on a "first name" basis. DT GT U GF DF

6... Staff members are permitted to conduct their work activities on the basis of how they personally perceive each situation. DT GT U GF DF

7... Staff members frequently collaborate with people assigned in other segments of the organization in planning and carrying out their work. DT GT U GF DF

8... Staff members are encouraged to follow specified operating procedures in much of the work they do. DT GT U GF DF

9... Staff members find greater incentives for increasing skills and knowledge in their chosen field than for holding an administrative position. DT GT U GF DF

10... Very few of the staff members get together for evening or weekend recreational activities. DT GT U GF DF

11... Staff members have the authority to make major decisions on problems relating to their work roles. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

12... The administration readily recognizes accomplishments which are made by staff members working outside of their primary assignment. DT GT U GF DF

13... The individual staff member determines when vacation schedules and work loads are *not* in conflict. DT GT U GF DF

14... Activities related to personal work interests must be subordinated to organizational demands. DT GT U GF DF

15... Staff members do *not* address administrative superiors by their first names while on the job. DT GT U GF DF

16... A person who wants to make his own decisions on work roles would become discouraged here. DT GT U GF DF

17... Each staff member works under quite similar circumstances from day to day. DT GT U GF DF

18... The organizational rules and regulations are to be carefully followed. DT GT U GF DF

19... A fixed procedure is followed in determining salary increases. DT GT U GF DF

20... The administration sponsors social activities involving the families of staff members. DT GT U GF DF

21... People here receive unsolicited instructions from their superiors on how to perform work roles. DT GT U GF DF

22... Staff members are *not* apprehensive about working with people from divisional units other than the one to which they are assigned. DT GT U GF DF

23... Rules and procedures are *not* limiting factors in getting the job done. DT GT U GF DF

24... Staff members have the opportunity to direct their work activities into areas of personal interest. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

25... Many staff members get together for evening or weekend recreational activities. DT GT U GF DF

26... Equipment and supply needs for each organizational role are determined by the administration (management). DT GT U GF DF

27... One staff member will not object to another's activities when the activities over-lap with his assigned area of work. DT GT U GF DF

28... Personnel are always left to their own judgment as to how to handle problems in their assigned areas of work. DT GT U GF DF

29... The distribution of salary increases is determined mainly by how well staff members accomplish the tasks which they themselves have proposed to do. DT GT U GF DF

30... The administrators make each employee feel that the employee's personal concerns merit special consideration from the administrator. DT GT U GF DF

31... Persons in administrative positions are disposed to feel that they have the best solutions for the work problems of their subordinates. DT GT U GF DF

32... The staff functions relating to more than one discipline, specialty, or assigned area of work are strongly supported by staff members. DT GT U GF DF

33... Staff members are expected to follow written orders coming from superiors without question or modification. DT GT U GF DF

34... Emphasis is placed upon helping staff members achieve personal professional goals while working at their particular assigned roles. DT GT U GF DF

35... Employee social functions are well supported by the organization's personnel. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

36... There can be little action until a superior approves a proposed activity. DT GT U GF DF

37... One has to be cautious about working in activities which over-lap with another person's area of work. DT GT U GF DF

38... Individuals are expected to exercise self-reliance in determining the procedures to be used in performing work roles. DT GT U GF DF

39... Length of service carries relatively little weight in the distribution of salary increases. DT GT U GF DF

40... The administrators of a particular geographic unit have little or no contact with the families of employees assigned to that unit. DT GT U GF DF

41... Staff members discuss work problems with persons in the highest administrative positions without an intermediary's approval. DT GT U GF DF

42... Staff members feel that they have all they can do without being concerned about what others are doing. DT GT U GF DF

43... Personnel are able to regulate their working hours within suggested bounds as the work requires. DT GT U GF DF

44... Advancement to an administrative position is the primary sign of success in the organization. DT GT U GF DF

45... The administration sets the pattern for free, informal communication with subordinates. DT GT U GF DF

46... The way things are done here is left to the discretion of the person doing the work. DT GT U GF DF

47... Personnel are considered by the administration to be sufficiently capable to recognize the limits of their work competency. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

48... People here find it necessary to stretch the rules in order to get the job done. DT GT U GF DF

49... The salary of new staff members is negotiated on the basis of their expected value to the organization. DT GT U GF DF

50... Staff members form their primary social or friendship groups with fellow employees. DT GT U GF DF

51... Staff members do *not* get instructions from superiors on how specific jobs should be done. DT GT U GF DF

52... There is no reason why a person's day to day work tasks cannot be varied according to his interests. DT GT U GF DF

53... Employees are urged to develop better methods for performing work tasks. DT GT U GF DF

54... The administration makes liberal allowances for errors in judgment when personnel are engaged in exploratory activities. DT GT U GF DF

55... Employees of the organization never seem to find time to get together for social events. DT GT U GF DF

56... Staff members feel that they are responsible for the success or failure of jobs undertaken by the organization. DT GT U GF DF

57... We are expected to respond to the needs of other staff members in the tasks they are assigned to perform. DT GT U GF DF

58... When a problem arises for which a person has *no* immediate solution, he is always expected to pass it on to a designated superior. DT GT U GF DF

59... Adequate time and resources are set aside by the organization for staff members' participation in professional associations. DT GT U GF DF

DEFINITELY TRUE/GENERALLY TRUE/UNDECIDED/GENERALLY FALSE/DEFINITELY FALSE

DT GT U GF DF

60... There are formal restrictions on making contacts with clientele on matters pertaining to the staff member's work. DT GT U GF DF

INDIVIDUAL INFORMATION

Respond to the following questions by circling the letter which designates the appropriate answer.

1- How many years have you worked with this organization?

- a- Less than 1 year.
- b- More than 1 year but less than 5.
- c- More than 5 years but less than 10.
- d- More than 10 years but less than 20.
- e- More than 20 years.

2- What is the nature of your work in Cooperative Extension Service?

- a- Subject Matter Specialist.
- b- Staff Supervisor.
- c- Program Leader.
- d- Other. (Specify) ______________________________.

3- How long have you had your present assignment?

- a- Less than 1 year.
- b- More than 1 year but less than 5.
- c- More than 5 years but less than 10.
- d- More than 10 years but less than 20.
- e- More than 20 years.

4- With which unit (s) are you assigned?

- a- Extension.
- b- Extension and resident teaching.
- c- Extension and research.
- d- Extension, resident teaching and research.
- e- Otherwise. (Specify) _________________________.

5- Who is responsible for your performance rating as it relates to salary and promotion?

a- Superiors in Cooperative Extension Service.

b- Superiors in the academic department.

c- Superiors in the Experiment Station and Cooperative Extension Service.

d- Both (a) and (b).

e- Both (b) and (c).

f- Others. (Who?) ________________________________.

6- How many supervisory and administrative positions are there between you and the top administrator responsible for your state Extension Service organization?

a- 0.

b- 1.

c- 2.

d- 3.

e- 4 or more.

THANK YOU - YOUR HELP IS APPRECIATED.

Wayne B. Ringer
Research Associate in Adult Education
282 Temple View Drive
Logan, Utah 84321

Organizational Innovativeness Rating Scale

As part of my doctoral program in adult education at The University of Chicago, I am conducting a study of Extension Service organization. I need your cooperation in testing a rating scale and in providing preliminary data for the study. Because of your administrative experience and extensive contacts with national leaders in Extension, I feel that the information you may be able to supply will be most helpful. We hope that some new insight relating to the problems of organizational adaptation and change may result from this study. Your assistance will be greatly appreciated.

A- *Instructions to Raters:*

The purpose of this instrument is to obtain a comparative rating of the state Cooperative Extension Service organizations on their innovativeness in program development. The ratings provided will be known only to the investigator. State ratings will be coded and summarized so that the anonymity of the state organizations and individual scores will be maintained. Please follow the steps as suggested below in making your ratings.

STEP I:

Read the statement on the characteristics to be rated which include (B) definitions, (C) indices of innovation in organizations, and (D) criteria for ratings.

B- *Definition of the Innovative Organization:*

The term "innovative organization" has been used as a means of designating an organization which demonstrates capabilities for adapting to environmental requirements. An innovative organization is adaptive when it puts new ideas to useful purposes, but an adaptive organization may not be innovative because it does not conceive of many new ideas. "New idea" is meant to include novel combinations of the elements in previously applied ideas or practices as well as an idea not previously used by a particular class of organizations. The Cooperative Extension Service is considered as a class of organizations or reference group.

Innovation in an organization is thought to occur in three stages: the conception of a new idea, the communication of the new idea, and the acceptance or implementation of the new idea. Not all new ideas are perceived or proven to be workable or acceptable by the participants or supporters of an organization; therefore, some innovations are non-adaptive and if put to use, may contravene the purposes of the organization. Hence innovation may be either supportive or detrimental to the organization.

The phrase "innovation in program development" is not to be interpreted as being restricted to the first known use of a practice by mankind but rather to the first use of a practice in a program by one member organization in the reference group with which the Cooperative

Extension Service is associated. *An innovation in program development is the implementation of a new idea or practice by an individual or group which has had little or no prior knowledge of its use in the particular circumstances to which it is applied.*

C- *Indices of Innovation in Organizations:*

Indices of innovation include services, processes, products, organizational structure modifications and involvement of new personnel or clientele with the organization.

1. Services:

Service or policy innovations in program development involve concepts that focus on basic redefinitions of the goals of the organization or on the formation of new goals. These types of innovations are sanctioned by staff members at the top levels of the organizational hierarchy and are generally their responsibility but may be initiated at any level. Policy makers in the innovative organization are cognizant of the changing environment and the meaning this evolvement has in terms of the purposes of the organization. Policy leadership and implementation may thus be a factor contributing to an innovative program.

2. Processes:

Processes or procedural innovations in program development are the new intangible elements which may be initiated at any level in the organizational hierarchy; however, supervisory and program staff members are generally expected to make a substantial contribution toward innovation at this level, at least in the innovative organization. Leaders in the innovative organization will permit a wide range of discretion for all levels of staff members as program procedures are developed within broad guidelines of policy.

3. Products:

Product innovations in program development are the new tangible things produced by organizational members in accomplishing specific objectives. Product innovations may be in the form of inventions or adaptations which are unique to the particular organizational situation to which they are applied. An example of a product innovation could be a program the concept of which is *new* to Cooperative Extension Service organizations, and it could be a newly conceived piece of equipment or a teaching aid.

4. Structure Modifications:

Certain organizational structure modifications are characteristic of the innovative organization. A restructuring of the organization may be made to facilitate innovative programs. New sources of finance may be obtained and budgets reapportioned through taking from less promising programs and adding to those perceived to be most promising by the administrative, supervisory and program staff. Adjustments will be required in the amount of staff time allotted to the various program specialties as the innovative organization successfully expands its activities into new areas. The addition of physical facilities and equipment may indicate innovation if they are needed for new programs or new clientele. Provisions are made in the innovative organization for discarding those aspects of the program which are not receiving support from the clientele or sponsors in order to distribute resources more efficiently for priority programs which have promise of support.

5. New Personnel and Clientele:

The innovative organization stresses the importance of identifying and serving new clientele and the focus of the organization will be external *vis-à-vis* the potential offered for organizational growth and development. New people are frequently involved both internally and externally in the operation of the innovative organization but not for traditional purposes. The qualifications needed by new staff members are determined on the basis of projected program trends rather than by duplicating the skills of former incumbents. The innovative organization may demonstrate an ability to identify environmental problems and show sensitivity and skill in making adjustments which will facilitate solutions to these problems, or it may follow a program characterized by unusual new proposals which are wholly unrealistic in terms of meeting its challenges.

A major innovation in program development will require extensive adjustments in one or more of the indices cited. The number of indices involved and the extent of the adjustments required will determine the cost or magnitude of innovations as well as the level of innovativeness in the organization.

D- *Criteria for Ratings:*

Innovation in program development is not to be associated necessarily with those organizations which are highly publicized nor is it to be perceived as a popularity contest. Change for the sake of change does not constitute innovation. An organization may also be innovative in ways which are not innovations in program development. *The demonstrated level of program innovativeness during the last "five years" is the criteria to be used in assigning the ratings.*

STEP II:

Place the six green cards in front of you in numerical order from left to right. You will note that the rating scale is on a continuum representing increasing degrees of organizational innovativeness in program development. Number "1" represents the least innovative organizations, number "3" the mid-point and number "5" the most innovative, numbers "2" and "4" are intermediate intervals between the extremes and the mid-point, and "0" is for those you are unable to rate.

STEP III:

Place the plain cards representing the state Cooperative Extension Service organizations in columns under the green cards which according to your best judgment represent the organizations' relative innovativeness as defined. You may wish to make adjustments in the positions of some organizations as you proceed with the rating. Try to place, as near as possible, an equal number of states at each interval on the scale with the exception of the "0" column.

STEP IV:

When you are satisfied with the ratings, fasten the cards in each column together with the rubber bands supplied, that is the green card and the plain cards representing each level of innovativeness, and place in the brown envelope.

Thank you very much for your cooperation in furnishing data for this study. We anticipate that the findings will be published in the *Journal of Cooperative Extension.*

APPENDIX II

SUPPLEMENTARY TABLES

TABLE 27.--Statistical Values for Scale "A" of the Pilot Study Item Analysis (Hierarchy of Authority)

Item Number	Mean		Variance		Standard Deviation	Discriminative Index	Rank*
	High	Low	High	Low			
1.	4.1	3.0	0.7	1.3	1.0	1.067	3
2.	3.5	2.4	1.4	1.3	1.1	0.925	8
3.	3.8	2.6	1.1	2.0	1.2	0.979	6
4.	4.0	3.4	0.5	1.2	0.9	0.585	-
5.	4.0	3.5	1.7	1.8	1.3	0.363	-
6.	4.1	3.4	0.9	1.4	1.0	0.677	12
7.	3.7	2.6	1.4	1.9	1.2	0.819	9
8.	3.3	2.9	1.0	1.3	1.0	0.361	-
9.	3.8	3.3	1.0	1.3	1.1	0.399	-
10.	4.2	3.7	0.5	0.9	0.8	0.583	-
11.	3.4	3.2	1.6	1.7	1.2	0.134	-
12.	3.9	3.2	0.5	1.2	0.9	0.793	10
13.	3.7	2.7	1.4	1.7	1.2	0.745	11
14.	4.4	3.5	0.3	1.1	0.8	1.038	4
15.	3.6	2.9	1.2	1.1	1.0	0.676	-
16.	4.0	3.4	0.6	1.0	0.9	0.693	-
17.	3.7	3.0	1.5	1.1	1.1	0.604	-
18.	4.2	3.4	0.2	0.9	0.7	1.098	2
19.	2.0	2.2	0.5	0.7	0.8	-.279	-
20.	3.6	2.8	1.6	2.2	1.3	0.571	-
21.	4.0	2.8	0.5	1.2	0.9	1.280	1
22.	3.9	3.1	0.8	1.9	1.1	0.669	-
23.	3.1	2.5	1.1	1.1	1.0	0.566	-
24.	3.1	2.8	1.4	1.4	1.2	0.257	-
25.	3.5	2.5	0.8	1.2	1.0	0.972	7
26.	4.1	3.0	0.5	1.4	1.0	1.029	5

*Rank is given for the twelve items used in the final instrument.

TABLE 28.--Statistical Values for Scale "B" of the Pilot Study Item Analysis (Division of Labor)

Item Number	Mean		Variance		Standard Deviation	Discriminative Index	Rank*
	High	Low	High	Low			
1.	4.1	3.3	0.8	1.5	1.0	0.710	2
2.	3.5	2.9	1.3	1.4	1.1	0.511	8
3.	3.2	2.4	1.6	1.7	1.2	0.602	4
4.	2.9	2.7	1.3	1.3	1.1	0.158	-
5.	4.0	3.5	0.8	1.0	0.9	0.571	5
6.	4.0	3.6	0.7	1.1	0.9	0.422	12
7.	2.2	2.2	1.5	1.8	1.3	0.021	-
8.	2.6	2.9	1.3	1.7	1.2	-.194	-
9.	3.5	2.9	0.6	1.4	1.0	0.658	3
10.	3.7	3.1	0.6	1.1	0.9	0.566	6
11.	2.7	2.5	1.2	1.1	1.0	0.247	-
12.	3.5	3.5	0.9	1.3	1.0	0.000	-
13.	3.0	2.8	1.0	1.7	1.1	0.188	-
14.	2.3	2.3	0.8	0.8	0.8	-.001	-
15.	3.5	2.8	0.7	1.8	1.1	0.552	7
16.	3.3	2.8	1.2	1.2	1.1	0.433	11
17.	3.3	3.1	0.9	1.2	1.0	0.156	-
18.	3.1	2.4	0.9	0.8	0.9	0.716	1
19.	3.4	3.2	1.0	1.4	1.1	0.132	-
20.	3.5	3.1	1.6	2.0	1.3	0.315	-
21.	3.9	3.5	0.4	0.7	0.7	0.490	10
22.	2.5	2.7	0.9	1.1	1.0	-.157	-
23.	3.2	2.9	1.1	1.1	1.0	0.250	-
24.	3.3	3.0	0.7	1.8	1.1	0.271	-
25.	3.8	3.5	0.5	1.1	0.9	0.376	-
26.	3.4	2.9	0.9	1.2	1.0	0.499	9

*Rank is given for the twelve items used in the final instrument.

TABLE 29.--Statistical Values for Scale "C" of the Pilot Study Item Analysis (Rules and Procedures)

Item Number	Mean		Variance		Standard Deviation	Discriminative Index	Rank*
	High	Low	High	Low			
1.	2.8	2.1	0.9	0.7	0.9	0.790	4
2.	3.7	3.0	0.8	1.5	1.0	0.626	9
3.	3.7	3.1	0.8	1.0	0.9	0.626	10
4.	2.9	2.7	0.8	0.8	0.9	0.173	-
5.	3.5	3.1	0.7	1.2	0.9	0.367	-
6.	3.6	2.8	1.0	1.2	1.0	0.739	6
7.	3.9	3.4	0.8	1.1	0.9	0.530	-
8.	4.2	3.7	0.3	0.9	0.8	0.633	8
9.	2.5	3.3	2.5	1.8	1.4	-.524	-
10.	4.1	3.6	0.5	1.1	0.9	0.613	11
11.	3.8	3.3	0.7	1.5	1.0	0.511	-
12.	3.5	3.1	0.9	1.8	1.1	0.381	-
13.	3.0	3.6	2.2	1.6	1.4	-.440	-
14.	2.9	2.6	0.9	1.1	1.0	0.278	-
15.	3.7	2.5	1.1	1.4	1.1	1.068	3
16.	4.1	3.3	0.8	1.1	0.9	0.747	5
17.	3.7	3.1	1.1	1.0	1.0	0.577	-
18.	3.5	2.7	1.2	1.3	1.1	0.703	7
19.	2.3	1.9	0.9	0.6	0.8	0.445	-
20.	2.3	2.8	1.1	0.9	1.0	-.398	-
21.	3.1	2.0	1.3	0.4	0.9	1.118	2
22.	4.0	2.6	0.7	1.4	1.0	1.319	1
23.	2.5	2.1	1.0	0.8	0.9	0.322	-
24.	2.8	2.2	1.2	1.1	1.0	0.591	12
25.	3.5	2.9	1.6	1.5	1.2	0.501	-
26.	2.6	2.8	1.3	1.3	1.1	-.104	-

*Rank is given for the twelve items used in the final instrument.

TABLE 30.--Statistical Values for Scale "D" of the Pilot Study Item Analysis (Rewards)

Item Number	Mean		Variance		Standard Deviation	Discriminative Index	Rank*
	High	Low	High	Low			
1.	3.8	2.9	0.7	1.5	1.0	0.866	7
2.	3.7	3.1	0.8	1.4	1.0	0.593	-
3.	2.2	2.3	1.3	1.5	1.2	-.056	-
4.	3.3	2.4	1.0	1.2	1.0	0.894	6
5.	3.0	2.8	1.0	1.3	1.0	0.184	-
6.	3.8	3.4	0.7	0.9	0.9	0.455	-
7.	3.9	3.3	0.6	1.2	0.9	0.614	-
8.	3.6	3.4	1.2	1.0	1.0	0.208	-
9.	2.6	2.5	1.6	1.1	1.1	0.140	-
10.	3.0	2.4	1.2	1.0	1.0	0.521	-
11.	2.9	2.3	1.1	0.5	0.9	0.585	-
12.	2.2	2.4	0.8	1.0	0.9	-.230	-
13.	3.9	3.0	0.9	1.2	1.0	0.896	5
14.	3.4	2.6	1.0	1.1	1.0	0.755	-
15.	3.5	2.7	1.2	1.2	1.1	0.769	12
16.	3.8	3.1	0.7	1.1	0.9	0.712	-
17.	3.2	2.3	1.2	0.9	1.0	0.902	4
18.	3.4	2.5	1.0	1.2	1.0	0.847	8
19.	3.7	3.0	0.5	1.3	0.9	0.788	11
20.	3.3	2.4	1.4	1.0	1.1	0.823	9
21.	3.8	2.8	0.6	1.2	0.9	1.051	2
22.	2.6	2.6	1.8	1.4	1.2	0.000	-
23.	3.6	2.8	0.7	1.2	0.9	0.803	10
24.	3.4	2.2	0.6	0.8	0.8	1.305	1
25.	3.3	3.0	1.3	1.7	1.2	0.241	-
26.	3.2	2.2	1.1	0.8	0.9	1.011	3

*Rank is given for the twelve items used in the final instrument.

TABLE 31.--Statistical Values for Scale "E" of the Pilot Study Item Analysis (Interpersonal Relations)

Item Number	Mean High	Mean Low	Variance High	Variance Low	Standard Deviation	Discriminative Index	Rank*
1.	2.5	2.2	0.9	1.2	1.0	0.261	-
2.	3.5	3.0	0.9	1.8	1.1	0.482	12
3.	3.3	2.5	1.2	1.6	1.2	0.699	7
4.	3.9	3.2	0.7	1.7	1.1	0.638	9
5.	2.8	2.1	0.9	1.2	1.0	0.653	8
6.	2.9	2.3	0.9	1.3	1.0	0.549	10
7.	3.1	3.0	0.9	1.5	1.1	0.108	-
8.	4.0	2.6	1.3	2.0	1.3	1.050	3
9.	2.8	2.9	1.0	1.5	1.1	-.090	-
10.	3.2	2.3	0.9	1.0	0.9	0.940	5
11.	2.5	2.3	1.2	0.8	1.0	0.214	-
12.	3.1	2.5	0.8	2.3	1.2	0.465	-
13.	2.9	2.5	1.3	1.6	1.2	0.359	-
14.	3.2	3.1	0.8	1.6	1.1	0.081	-
15.	3.3	3.0	1.2	2.2	1.3	0.188	-
16.	3.6	3.0	0.8	1.6	1.1	0.546	11
17.	3.6	3.0	0.9	1.7	1.1	0.466	-
18.	3.1	2.0	1.5	1.2	1.1	0.966	4
19.	2.5	2.1	1.6	1.4	1.2	0.260	-
20.	2.4	2.7	1.2	2.2	1.3	-.229	-
21.	3.7	2.4	0.8	1.4	1.0	1.243	1
22.	3.8	2.8	0.7	1.6	1.1	0.904	6
23.	3.2	2.1	0.7	0.7	0.8	1.217	2
24.	3.0	3.2	0.7	1.1	0.9	-.272	-
25.	2.8	2.6	0.8	1.8	1.1	0.160	-
26.	3.3	3.4	1.1	1.1	1.0	-.105	-

*Rank is given for the twelve items used in the final instrument.

TABLE 32.--Values for Independent Variables of Final Analyses

Organization	Innovation	Hierarchy	Division	Rules	Rewards	Relations
1.	2.996	23.20	39.45	41.24	38.57	39.34
2.	2.990	27.43	41.66	39.57	39.21	38.65
3.	2.917	28.80	39.33	42.30	39.40	35.67
4.	3.606	23.20	36.78	38.57	36.49	30.08
5.	3.669	29.60	42.60	44.72	41.00	40.65
6.	2.957	29.54	42.90	47.63	41.54	40.66
7.	2.124	34.15	43.25	44.15	39.49	42.25
8.	3.677	24.92	39.03	40.15	39.26	34.41
9.	3.011	22.40	41.20	43.07	42.19	42.08
10.	1.441	34.15	39.80	40.85	39.64	36.51
11.	1.546	28.80	40.20	39.93	38.55	38.67
12.	3.718	24.80	41.73	42.46	43.33	37.87
13.	3.935	26.57	42.71	42.83	41.29	39.92
14.	4.518	28.00	42.79	45.44	43.19	40.43
15.	2.924	29.54	42.46	43.14	40.14	44.72
16.	4.126	25.60	40.36	42.53	38.75	35.78
17.	2.385	26.40	42.75	45.19	41.45	43.25
18.	2.288	35.00	41.51	44.50	41.02	37.18
19.	2.205	26.00	39.27	41.61	38.50	34.22
20.	2.790	41.31	39.77	42.46	39.34	33.00
21.	4.437	32.00	43.93	44.87	42.93	37.80
22.	2.687	26.57	39.96	42.36	38.88	34.40
23.	2.356	24.00	40.36	43.29	38.64	38.14
24.	4.840	27.20	41.85	44.15	41.08	39.99

TABLE 32.--*Continued*

Organization	Innovation	Hierarchy	Division	Rules	Rewards	Relations
25.	2.059	29.60	39.10	41.13	38.72	36.19
26.	1.346	26.77	39.10	41.59	35.19	32.83
27.	1.496	27.00	40.17	45.37	41.57	37.69
28.	2.346	26.00	42.75	44.22	41.28	40.73
29.	1.375	24.00	40.20	41.14	38.75	36.94
30.	3.910	33.82	43.64	47.27	41.73	41.29
31.	4.684	26.40	40.34	44.35	41.03	38.33
32.	2.200	32.00	42.80	41.93	39.74	40.41
33.	4.109	24.00	39.74	39.15	39.15	36.80
34.	3.968	30.55	44.36	45.00	42.73	39.82
35.	4.007	29.60	41.72	41.60	41.35	43.01
36.	2.980	21.60	40.27	40.93	41.00	38.60
37.	1.502	31.20	40.36	40.04	38.94	33.96
38.	2.146	22.29	41.28	39.50	41.01	38.02
39.	3.164	32.00	43.33	41.25	42.25	38.52
40.	1.754	30.00	44.28	44.36	41.79	40.99
41.	3.609	27.20	42.25	40.66	38.78	39.58
42.	3.597	28.00	39.17	41.86	39.40	40.07
43.	3.836	34.00	42.68	44.87	41.08	33.52
44.	4.607	25.00	43.05	42.75	40.42	36.33
45.	1.630	18.86	40.94	42.84	40.14	44.36

TABLE 33.--Values for Three Covariates of the Final Analyses*

Organization	Service	Tenure	Levels
1.	3.20	2.47	2.53
2.	3.93	3.14	3.00
3.	3.53	3.27	2.53
4.	4.00	3.27	3.60
5.	3.13	2.53	2.60
6.	2.92	2.39	2.62
7.	3.62	3.39	1.62
8.	3.46	3.00	3.69
9.	3.60	3.20	3.07
10.	3.85	3.23	2.85
11.	3.80	3.13	2.13
12.	3.67	3.00	3.47
13.	3.71	3.57	2.71
14.	4.13	3.47	3.07
15.	3.46	3.08	3.00
16.	3.53	2.87	3.27
17.	3.60	3.00	3.60
18.	3.42	2.58	3.75
19.	3.67	2.83	3.00
20.	3.62	3.23	3.23
21.	3.33	3.13	2.60
22.	3.21	2.71	2.93
23.	3.79	3.14	3.64
24.	3.67	2.80	3.73

TABLE 33.--*Continued*

Organization	Service	Tenure	Levels
25.	3.73	2.60	2.33
26.	2.31	1.92	2.23
27.	2.92	2.58	2.00
28.	2.92	2.58	2.58
29.	3.39	3.00	3.00
30.	3.46	2.91	3.18
31.	3.33	3.07	3.87
32.	3.53	3.13	2.67
33.	3.62	3.23	3.54
34.	3.73	2.73	3.18
35.	3.47	3.00	2.67
36.	3.67	3.07	3.13
37.	3.33	3.00	2.67
38.	3.21	2.71	3.07
39.	3.50	2.83	2.58
40.	3.64	3.50	1.71
41.	3.67	3.33	3.47
42.	3.40	2.80	2.67
43.	3.67	3.08	3.42
44.	3.50	3.25	3.92
45.	3.43	3.07	3.14

*The covariates, "personnel" and "budget" are not given because the values for these variables could be used to identify the state organizations.

TABLE 34.--Analysis of Variance for the Wisconsin Ratings*

Source of Variation	Sum of Squares	Mean Squares	df
Raters	138.756	3.304	42
Subjects	966.222	19.719	49
Residual	1625.701	0.790	2058
Total	2730.678		2149

*Reliability coefficient - mean square estimate = 0.96.

TABLE 35.--Analysis of Variance for the Washington Ratings*

Source of Variation	Sum of Squares	Mean Squares	df
Raters	0.792	0.088	9
Subjects	974.872	19.895	49
Residual	26.208	0.059	441
Total	1001.872		499

*Reliability coefficient - mean square estimate = 0.99.

APPENDIX III

CORRESPONDENCE

Letter Enclosed with Pilot Study Instrument

Note to the Respondent:

The enclosed instrument is a preliminary draft of a rating scale which I am developing to do organizational research, as part of a doctoral program in the Department of Education at The University of Chicago. The cooperation of you and some of your associates is needed for obtaining the necessary information. I am interested in determining the perceptions of staff members concerning certain administrative characteristics which are found in organizations in varying degrees, depending upon the purposes or goals of the organization.

Recognizing that this request will add to the burden of a busy schedule, I have purposely contacted only a small number of the staff members in the organization; therefore, I place additional importance upon your contribution in order that adequate data may be obtained. The instrument is much longer than it will be in the final form, but a response is needed on each item at this stage even though some items may appear to be similar.

Permission has been granted to me for making this request. Please follow the brief instructions for responding to the items. Your help will be greatly appreciated.

Thank you,

Wayne B. Ringer
Graduate Student

Letter to State Extension Service Directors
Requesting Permission for Study

April 3, 1967

Dear Director ________________:

In partial fulfillment of the requirements for the doctoral program in adult education at The University of Chicago, I am conducting a study of the state Cooperative Extension Service Organizations. The focus of the investigation will be on the characteristics of organizational administration which may influence innovativeness in program development. It will be necessary to obtain the cooperation and approval of most of the state Extension Service organizations to secure adequate data. Your support would be greatly appreciated.

In order that you might be aware of the extent to which your organization would be involved, I will be specific in stating what is needed. I want to mail a questionnaire to no more than 15 members of your supervisory and program staff; twenty minutes should be adequate time to respond to the instrument. The participants are to be selected as a random sample, so it will be necessary to obtain a current listing of personnel in supervisory and program specialist positions or persons serving in both capacities.

The data collected will be treated confidentially by the investigator, and the anonymity of organizations and individuals will be maintained in any reports which are released.

If you are able to give an affirmative reply to my request, would you please send me a current mailing list of supervisory and program specialist personnel? A self-addressed stamped envelope is enclosed for your convenience. Your cooperation will be appreciated.

Yours truly,

Wayne B. Ringer
Graduate Student

Letter to State Extension Service Directors Requesting Confirmation of Mailing List

August 10, 1967

Dear Director _______________:

In April you were kind enough to grant permission to mail a questionnaire to staff members of your organization so that I might obtain their help on a dissertation research problem. My questionnaire has been mailed to a random sample consisting of 15 members of the supervisory and program specialist staff; a list is enclosed.

In my first letter I may have failed to communicate clearly by using the term "program specialists" when it should have been "program leaders" and "subject matter specialists." The enclosed list of staff members may include personnel working as supervisors, program leaders and subject matter specialists or personnel assigned in only two of the three types of positions.

I have attempted to minimize the total organizational time and effort involved in responding to the questionnaire through instrument design and random sampling, but in so doing, I have become increasingly dependent upon those who have been called upon to provide information. It will be necessary to obtain a response from most of the people on the enclosed list if adequate data are to be provided. If there are people on the list who are no longer on your staff, on extended leave or who are otherwise unable to respond, I would like to have an opportunity to substitute another name in their place. Please give me the names of people who fall in the above categories on the enclosed post card, if there are any.

Your support on this project is certainly appreciated, and I wish to thank you.

Yours truly,

Wayne B. Ringer
Research Associate in Adult Education
Extension Agricultural Engineer
Utah (On Leave)

WBR:jmr
Enclosure

Letter Enclosed with Questionnaire

August 10, 1967

Dear Fellow Extension Worker:

As part of the requirements for the doctoral program in Adult Education at The University of Chicago, I am conducting a study of the state Cooperative Extension Service organizations. While it is difficult to predict the outcome of a study, it is my hope that some small contribution will be made toward a better understanding of our Extension Service organization. The results of the study will be submitted to the *Extension Journal* for publication. The enclosed questionnaire has been designed to measure certain administrative characteristics of organizations as perceived by their employees. Your cooperation along with that of a randomly selected sample of your associates is needed to provide data about your organization for this study.

Recognizing that this request will add to the burden of a busy schedule, I have tried to minimize the time required for responding to the instrument and have provided a stamped, addressed envelope for your convenience.

Your response to this letter is important to me if I am to successfully complete the study, and it will certainly be appreciated.

An administrator* of your organization was contacted in April and responded favorably to this request.

Yours truly,

Wayne B. Ringer
Research Associate in Adult Education
Extension Agricultural Engineer
Utah (On Leave)

WBR:jmr

*Director ________________________________.

Follow-up Letter

August 30, 1967

Dear Fellow Extension Worker:

In checking through the returns from my research questionnaire, I observed that the responses from your state were too few to represent your organization adequately. I have sent the questionnaires to only a limited number of people in your state to minimize total organizational time and effort and, therefore, need your help, provided that you have not already fulfilled my request.

Having worked for the Extension Service for a number of years, I am well aware of the demands placed on the staff member's time and also aware of the possibility that you may have been traveling in the state at the time my letter arrived. After considering the possible causes for delay, I thought it might be well to remind you of my continuing need for your assistance on this problem. If the questionnaire has been misplaced, would you please send me the enclosed, self-addressed post card, and I will mail you another copy.

May I take this opportunity to thank you for your consideration of my request, and I hope that it will be possible for me to return the favor some time.

Yours truly,

Wayne B. Ringer
Research Associate in Adult Education
Extension Agricultural Engineer
Utah (On Leave)

WBR:bw

Enclosure

Post Card Request for Second Copy of Questionnaire

Send me another copy of the questionnaire.

The questionnaire arrived while I was out of the office. I will complete it as soon as possible.

The questionnaire has been mailed.

______________________ Signature

____________ State

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